

## **PROPONENT SYSTEM TESTING**

The early CEMA-DAR testing plans called for both laboratory and field testing to be conducted on all the proponent systems submitted for testing. As many as four proponents with nine systems or variations were to be submitted for field testing and the plan (and test vehicle) was to accommodate them all. The DAB Subcommittee - Field Test Task Group, adopted a statement of "Objectives and Goals" for field testing which were incorporated into the early drafts of the test plan in 1995. The final plan was adopted by both the NRSC DAB Subcommittee and the CEMA DAR Subcommittee in June, 1995. A copy of the adopted plan (final version 5.0 dated May 30, 1995), with its attachments, is included with this report as Appendix A. Three proponents with four systems or variations were submitted and tested in the field.

## **FIELD TEST PLAN**

The plan describes test transmission facilities to be implemented in the San Francisco area with mobile testing to be conducted in the surrounding area. The major portion of testing was conducted over long mobile paths. Those paths were chosen in advance and included areas representative of various propagation conditions. The final routes are presented in this report attached as Appendix B. Other tests were anticipated in the plan, such as short paths and measurements inside building. However, such tests were conducted only as time and events allowed as described later in this report.

## **ROUTES AND DISTANCE REFERENCES**

Each of the six long routes were defined by starting and ending landmarks and intermediate landmarks along each route. The routes contained from 14 to 22 landmarks with the distance between sequential landmarks from several hundred meters to several kilometers. The landmarks were assigned by the field test crew at the beginning of the test process during a "pre-scripting" process to lay out the precise path along each route. Minor modifications of the actual path along portions of some of the routes were necessary because of traffic and driving restrictions. The resulting landmarks, which define the final routes and paths, were coded into the computer system used for testing. They were extracted from the computer files when all testing was completed and are presented on the cover pages for the collected data graphs.

## **REPORT OF THE FIELD TEST TASK GROUP; FIELD TEST DATA COLLECTION AND PRESENTATION**

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EIA-DAR Field Test Task Group  
December, 1996

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December, 1996

**REPORT OF THE FIELD TEST TASK GROUP;  
FIELD TEST DATA COLLECTION AND PRESENTATION**

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**TEST ROUTE DATA**

PAGE "D" - SAN FRANCISCO DOWNTOWN  
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PATH "N" - NORTH BAY  
PATH "E" - EAST BAY  
PATH "S" - SOUTH BAY  
PATH "W" - PENINSULA

**APPENDICES**

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# **REPORT OF THE FIELD TEST TASK GROUP; FIELD TEST DATA PRESENTATION**

**December, 1996**

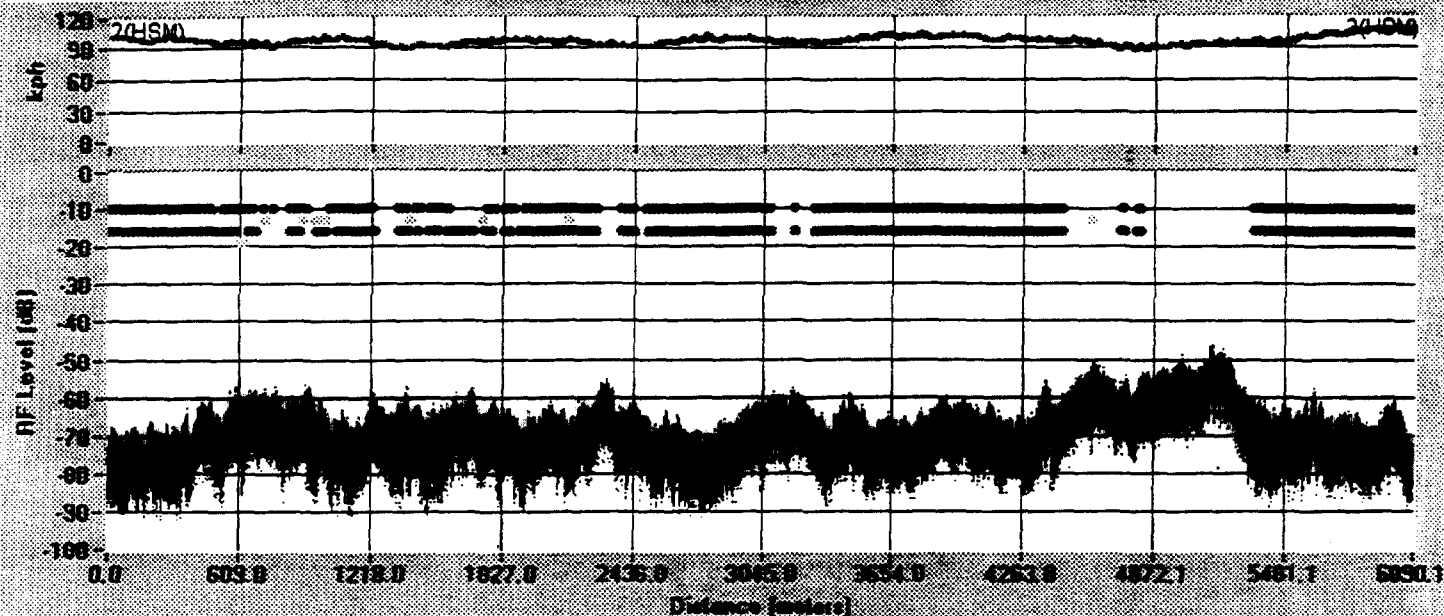
**Working Group B "Testing" of the  
CEMA - DAR Subcommittee**

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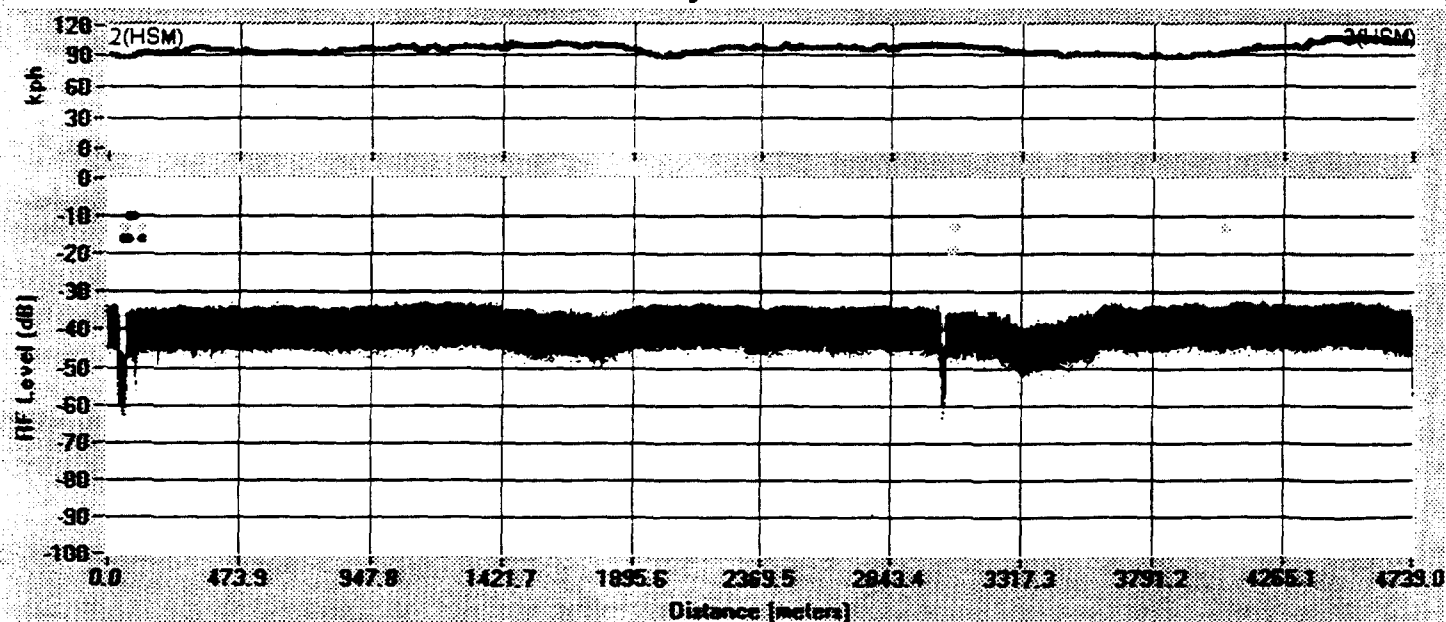
Prepared by  
Lohnes and Culver      Washington, D.C.  
Robert D. Culver, P.E.

### AT&T Lucent IBAC -- North Bay Route -- Landmarks 2-3



Event Summary: Total 4456; Clear 1253 (28.3%); Impaired 64 (1.4%); Muted 3139 (70.9%).

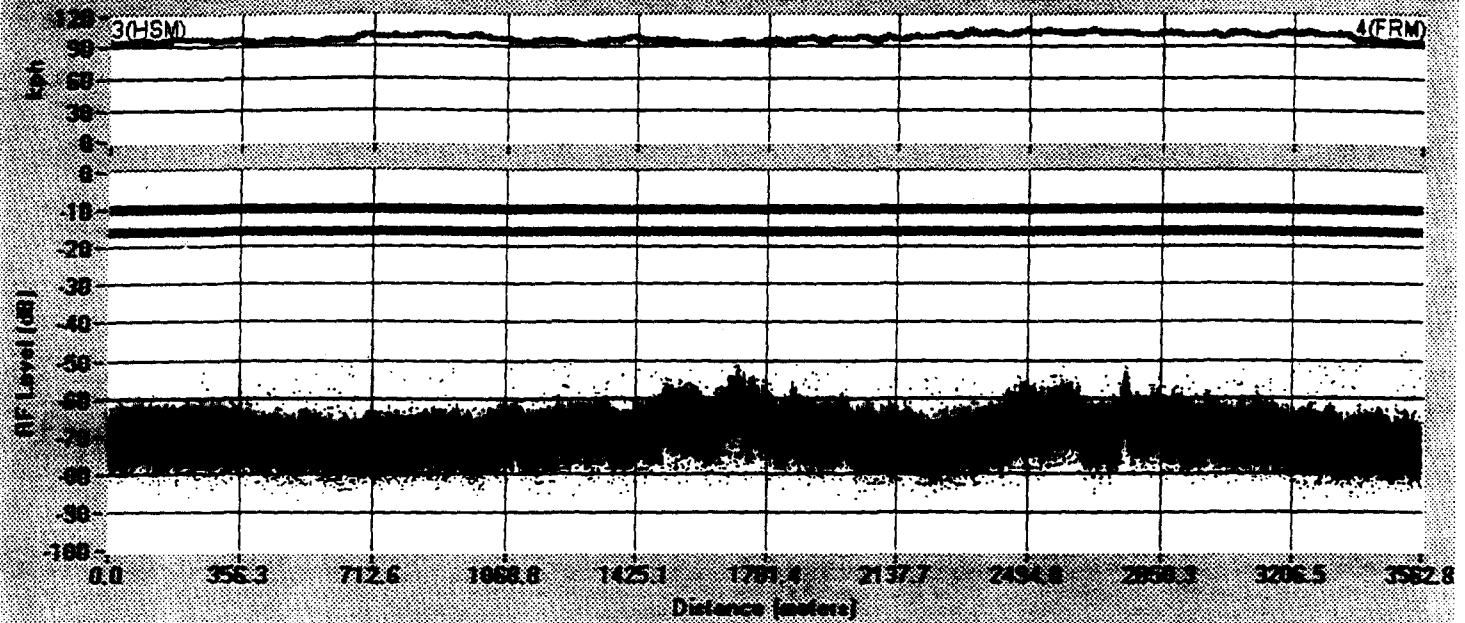
### VOAJPL -- North Bay Route -- Landmarks 2-3



Event Summary: Total 3526; Clear 3456 (98.4%); Impaired 38 (1.1%); Muted 32 (0.9%).

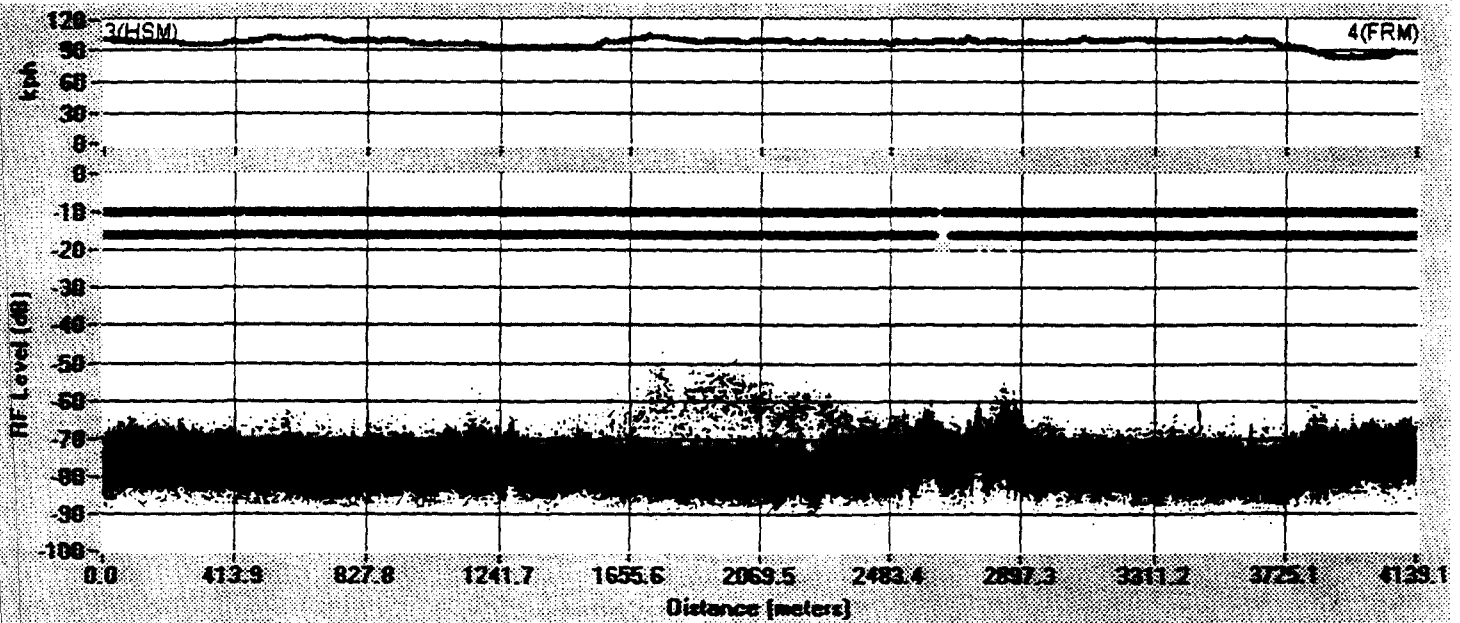
NOTE #1

### EUREKA-147 – North Bay Route – Landmarks 3-4



Event Summary: Total 2551; Clear 0 (0.0%); Impaired 2 (0.1%); Muted 2549 (100.0%).

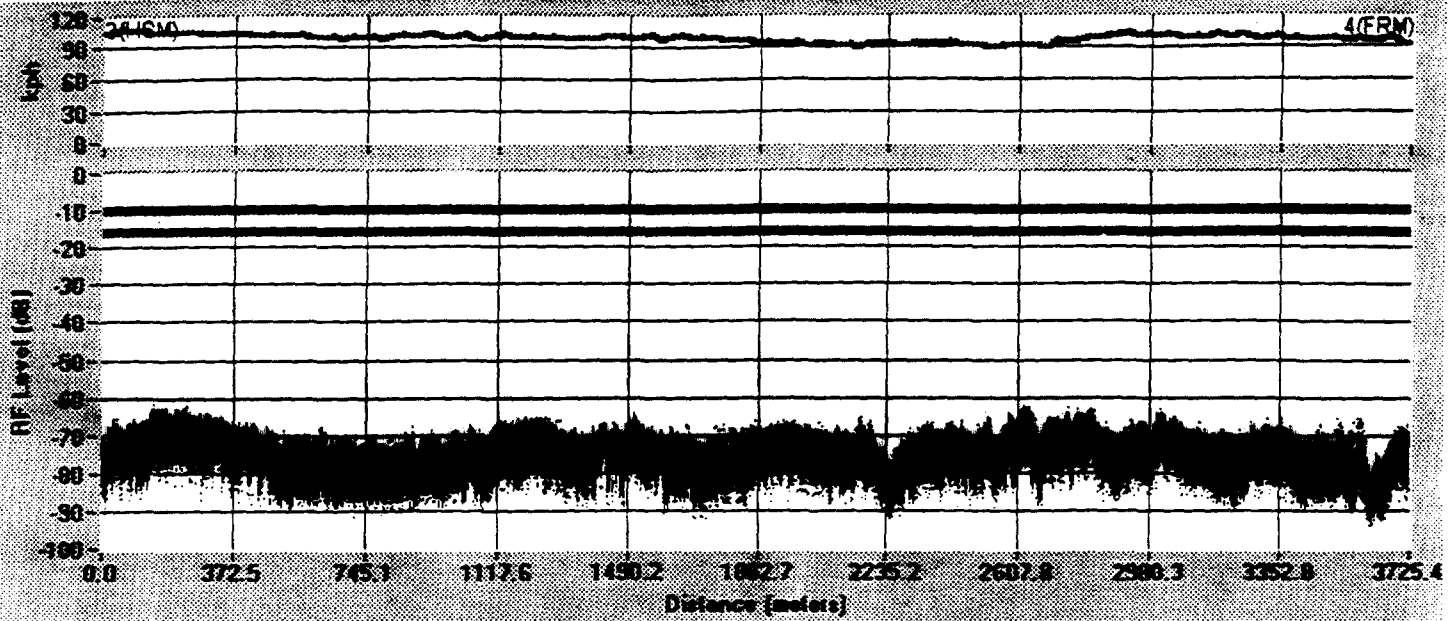
### EUREKA-147 (single) – North Bay Route – Landmarks 3-4



Event Summary: Total 3057; Clear 24 (0.8%); Impaired 27 (0.9%); Muted 3006 (98.9%).

NOTE #1

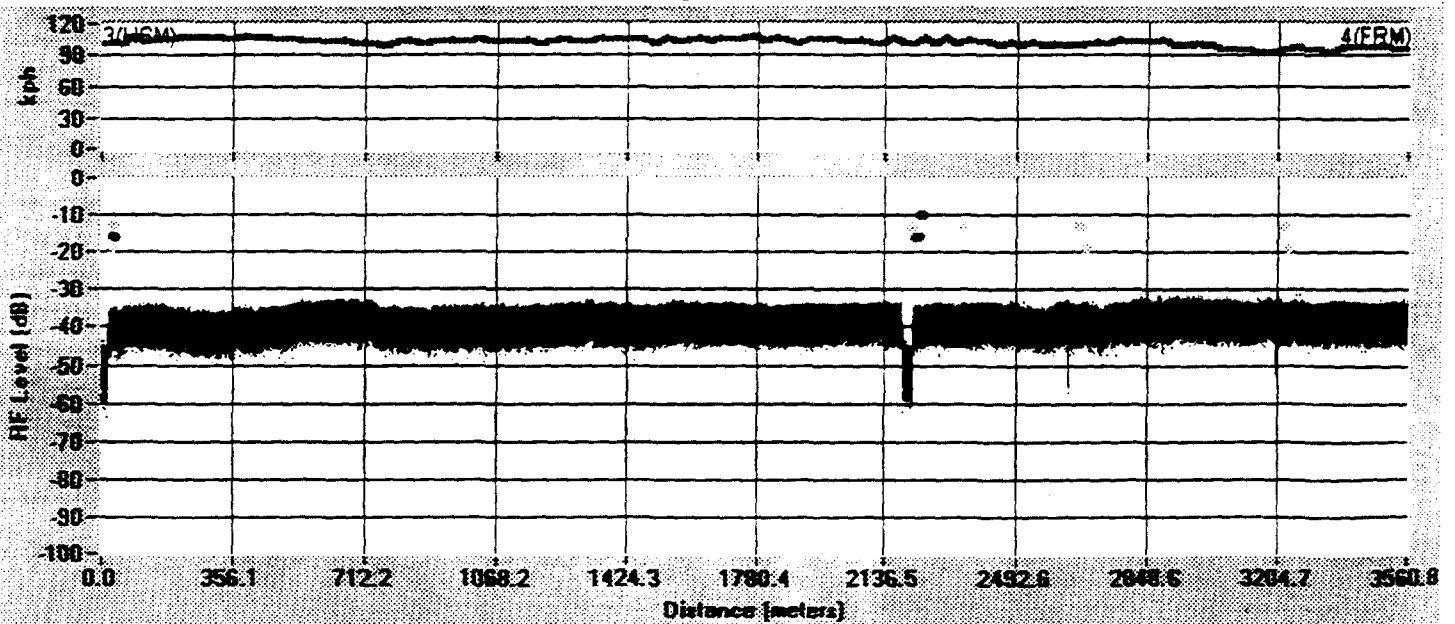
# AT&T Lucent IBAC – North Bay Route – Landmarks 3-4



Event Summary: Total 2681; Clear 2 (0.1%); Impaired 0 (0.0%); Muted 2679 (99.9%).

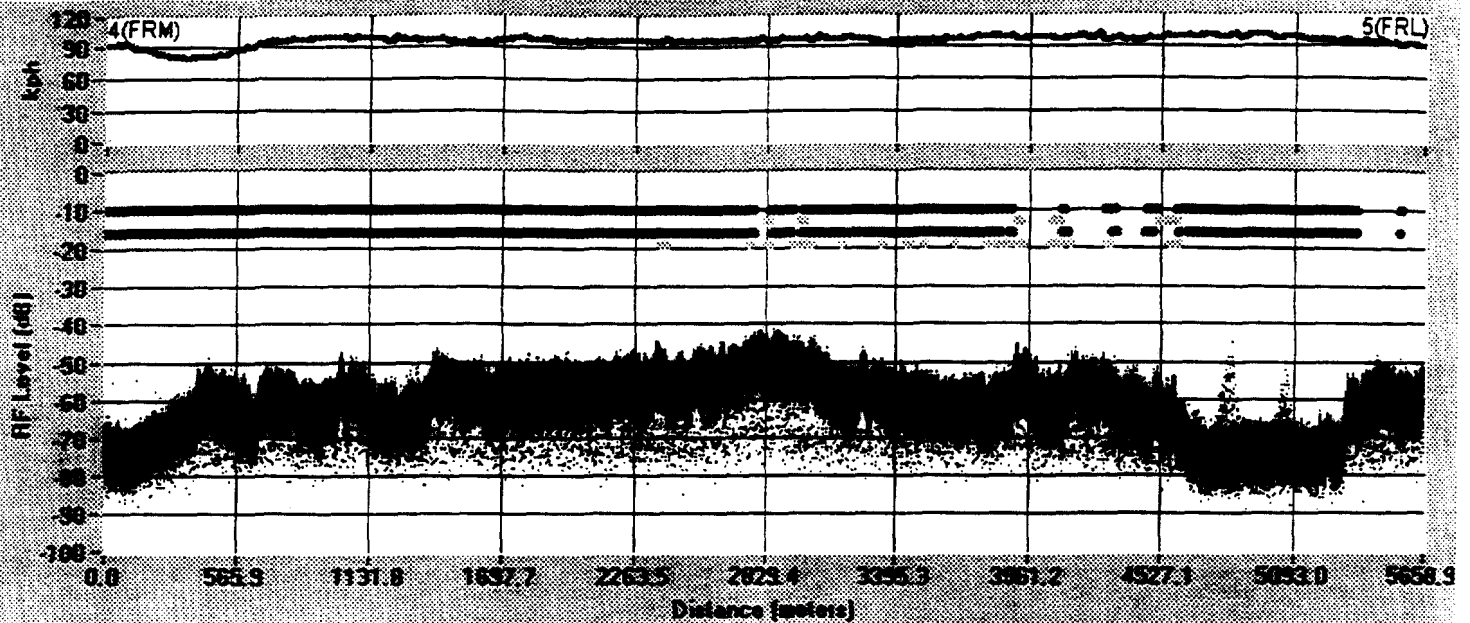
NOTE #1

# VOA/JPL – North Bay Route – Landmarks 3-4



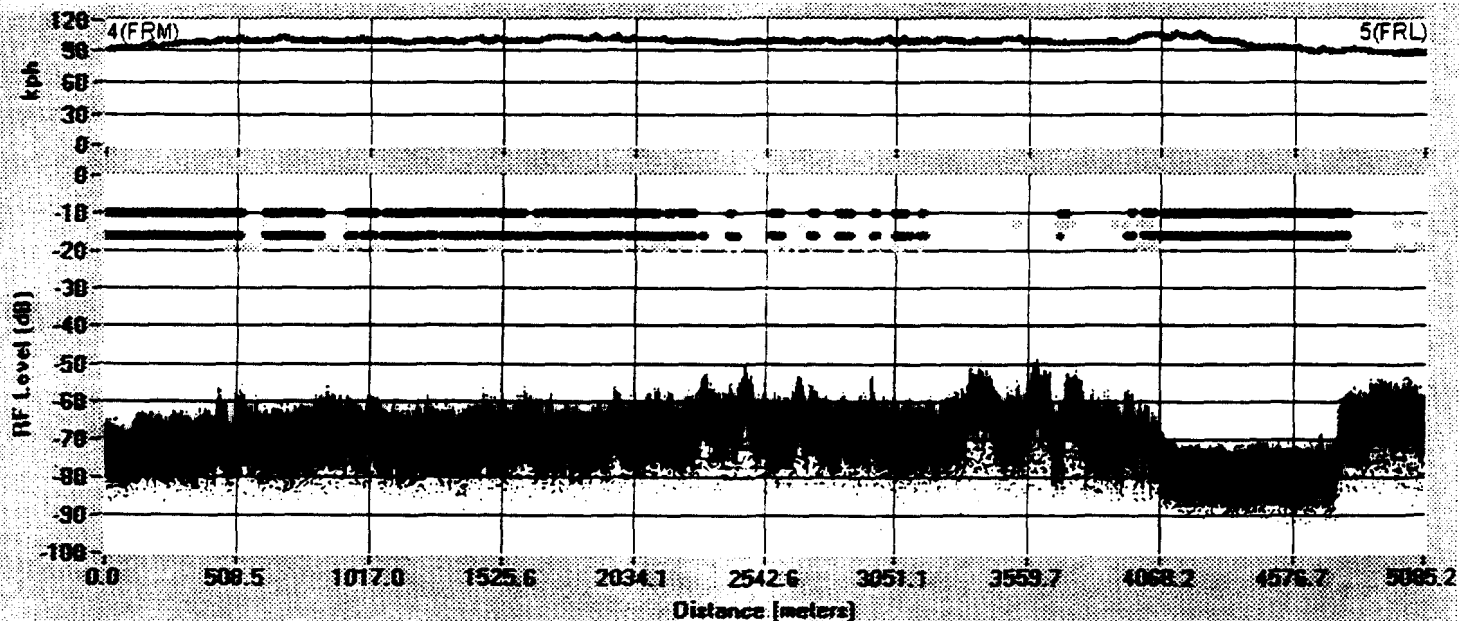
Event Summary: Total 2465; Clear 2395 (97.5%); Impaired 43 (1.8%); Muted 27 (1.1%).

# **EUREKA-147 -- North Bay Route -- Landmarks 4-5**



Event Summary: Total 4261; Clear 544 (13.0%); Impaired 263 (6.3%); Muted 3454 (82.5%).

# **EUREKA-147 (single) -- North Bay Route -- Landmarks 4-5**

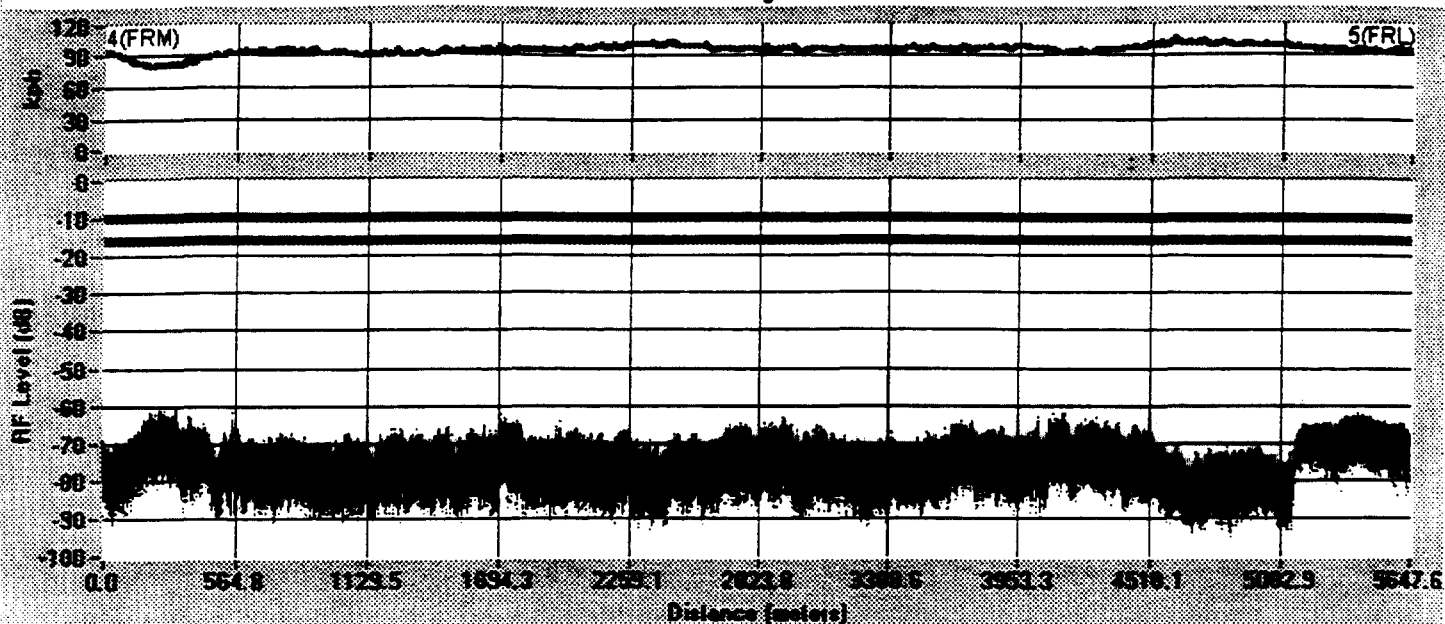


Event Summary: Total 3701; Clear 1268 (34.8%); Impaired 281 (7.7%); Muted 2152 (59.1%).

NOTE #1

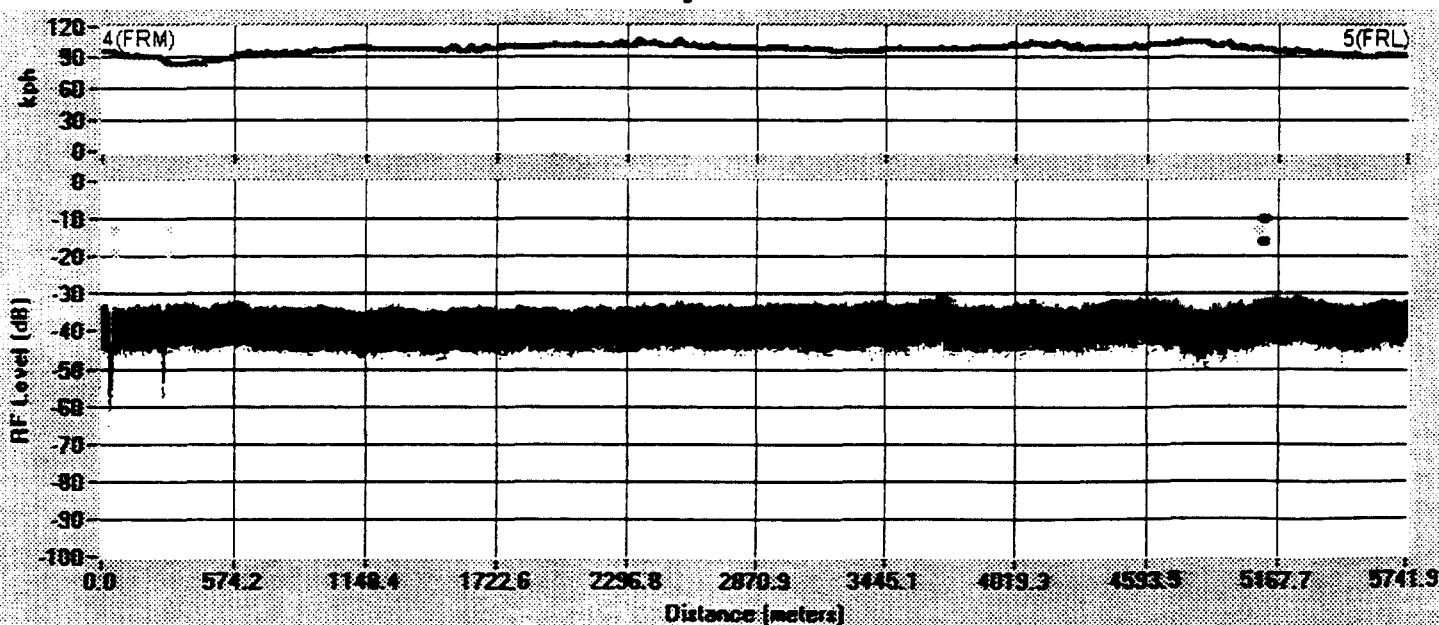


# AT&T Lucent IBAC -- North Bay Route -- Landmarks 4-5



Event Summary: Total 4170; Clear 0 (0.0%); Impaired 0 (0.0%); Muted 4170 (100.0%).

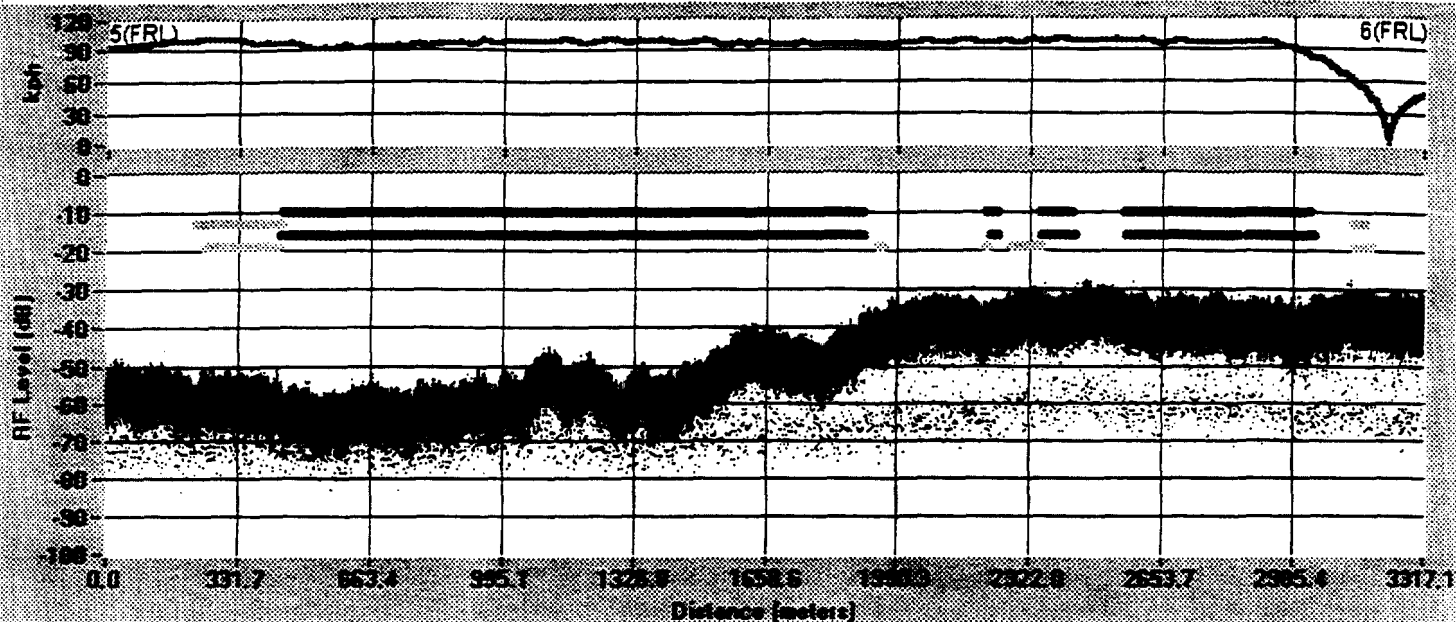
# VOA/JPL -- North Bay Route -- Landmarks 4-5



Event Summary: Total 4198; Clear 4150 (98.9%); Impaired 29 (0.7%); Muted 19 (0.5%).

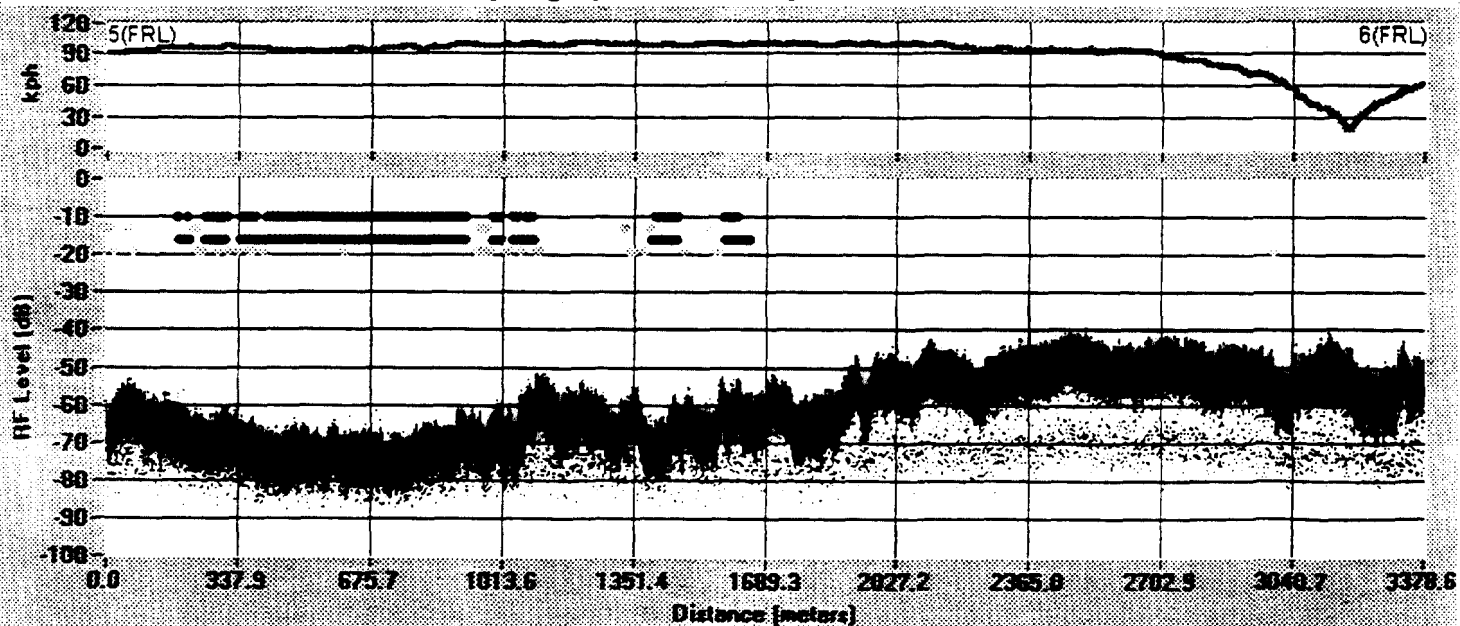
NOTE #1

### EUREKA-147 – North Bay Route – Landmarks 5-6



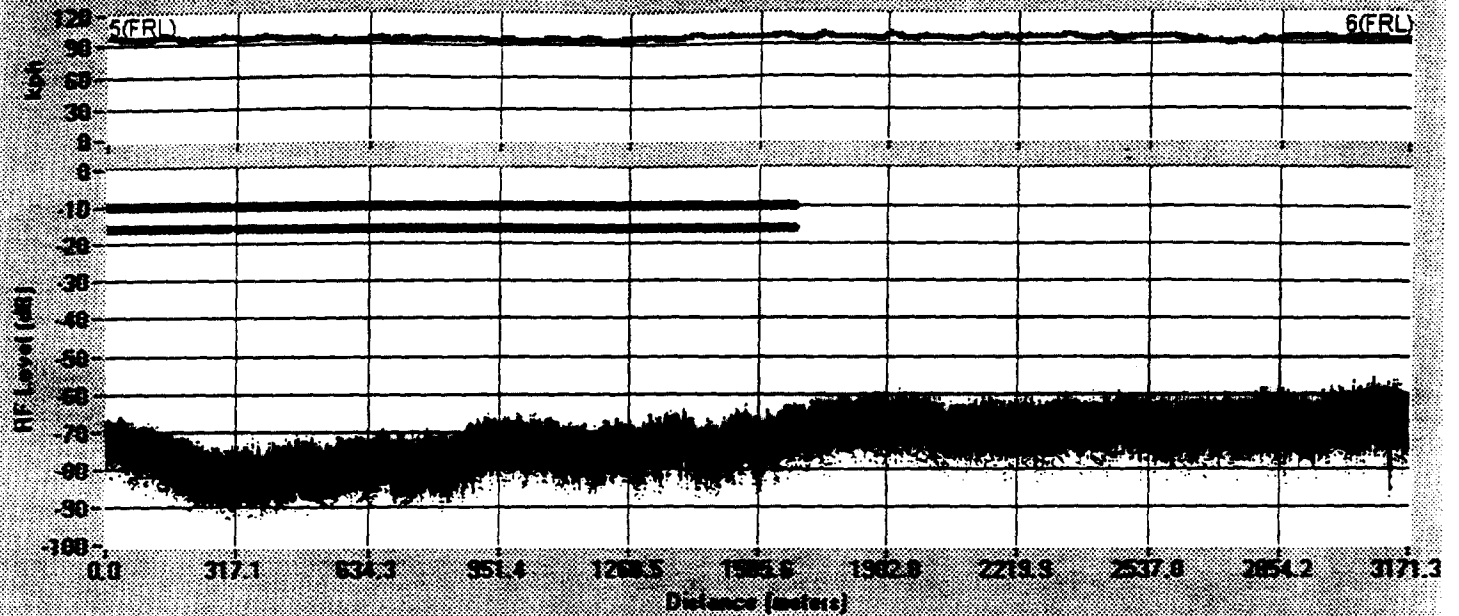
Event Summary: Total 2856; Clear 1061 (37.3%); Impaired 293 (10.3%); Muted 1502

### EUREKA-147 (single) – North Bay Route – Landmarks 5-6



Event Summary: Total 3034; Clear 2261 (74.6%); Impaired 144 (4.8%); Muted 629 (20.8%).

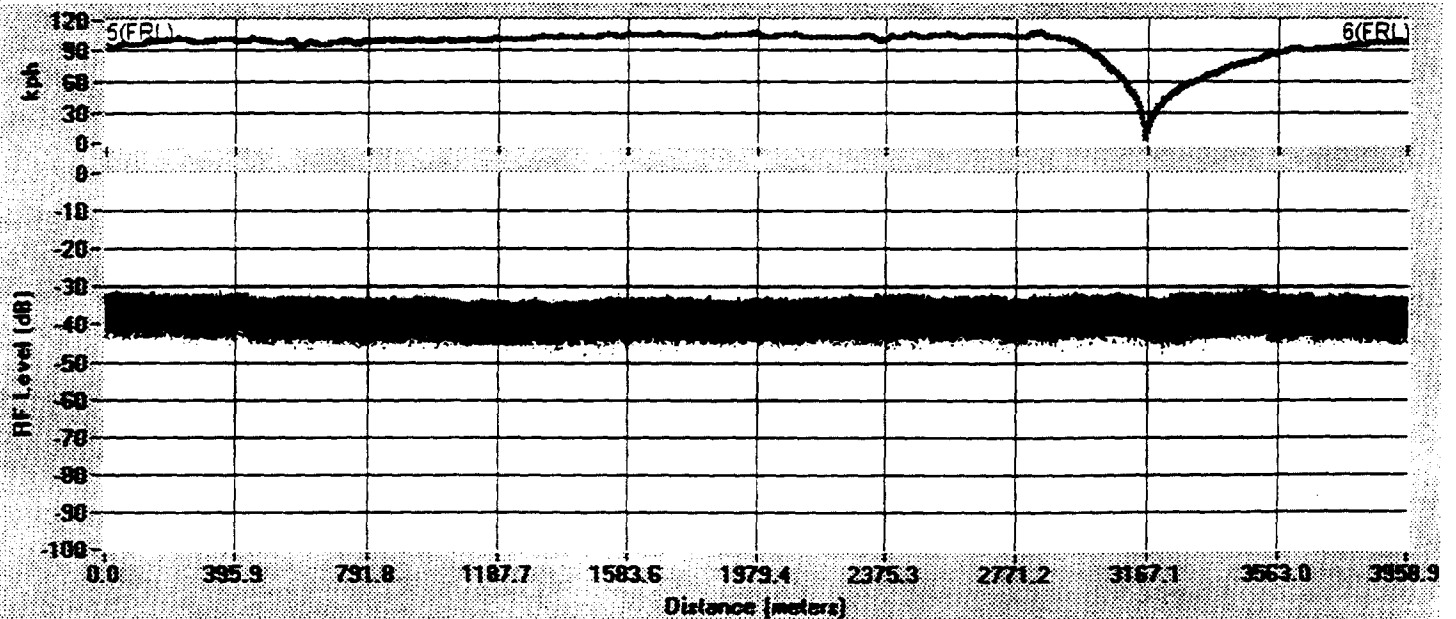
# AT&T Lucent IBAC -- North Bay Route -- Landmarks 5-6



Event Summary: Total 2276; Clear 1080 (47.5%); Impaired 0 (0.0%); Muted 1196 (52.5%).

NOTE #1

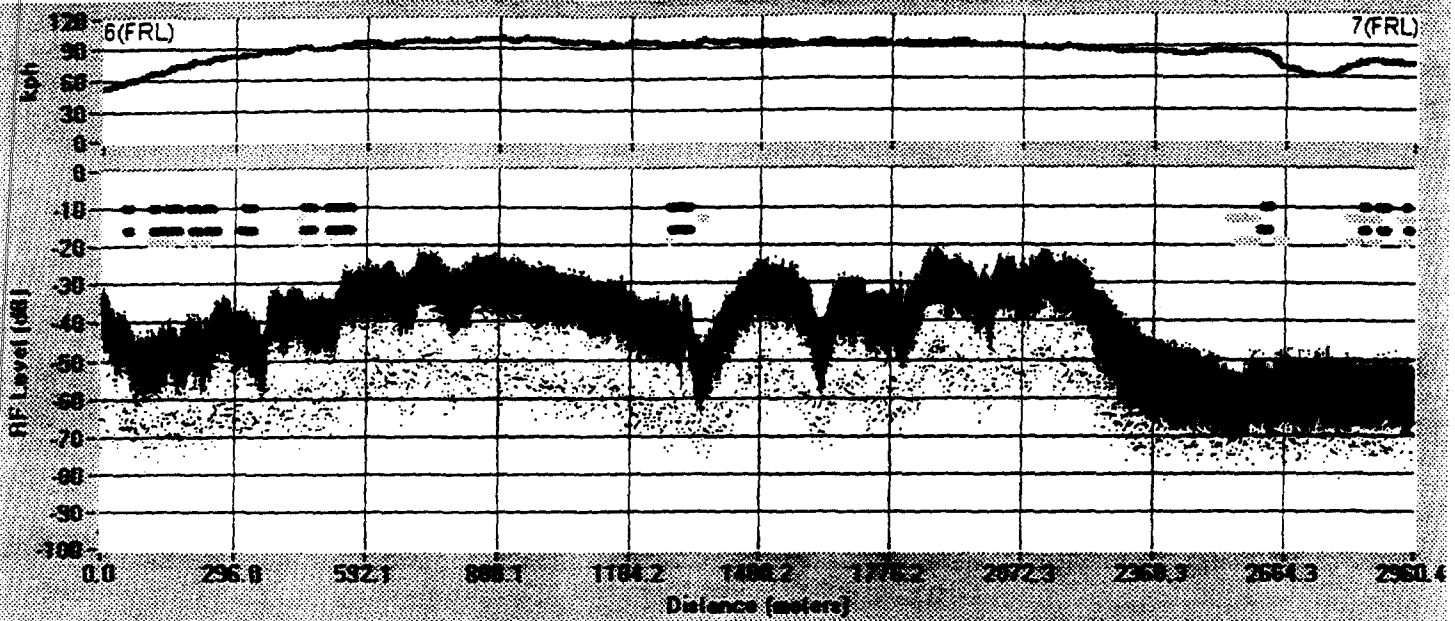
# VOAJPL -- North Bay Route -- Landmarks 5-6



Event Summary: Total 3268; Clear 3268 (100.0%); Impaired 0 (0.0%); Muted 0 (0.0%).

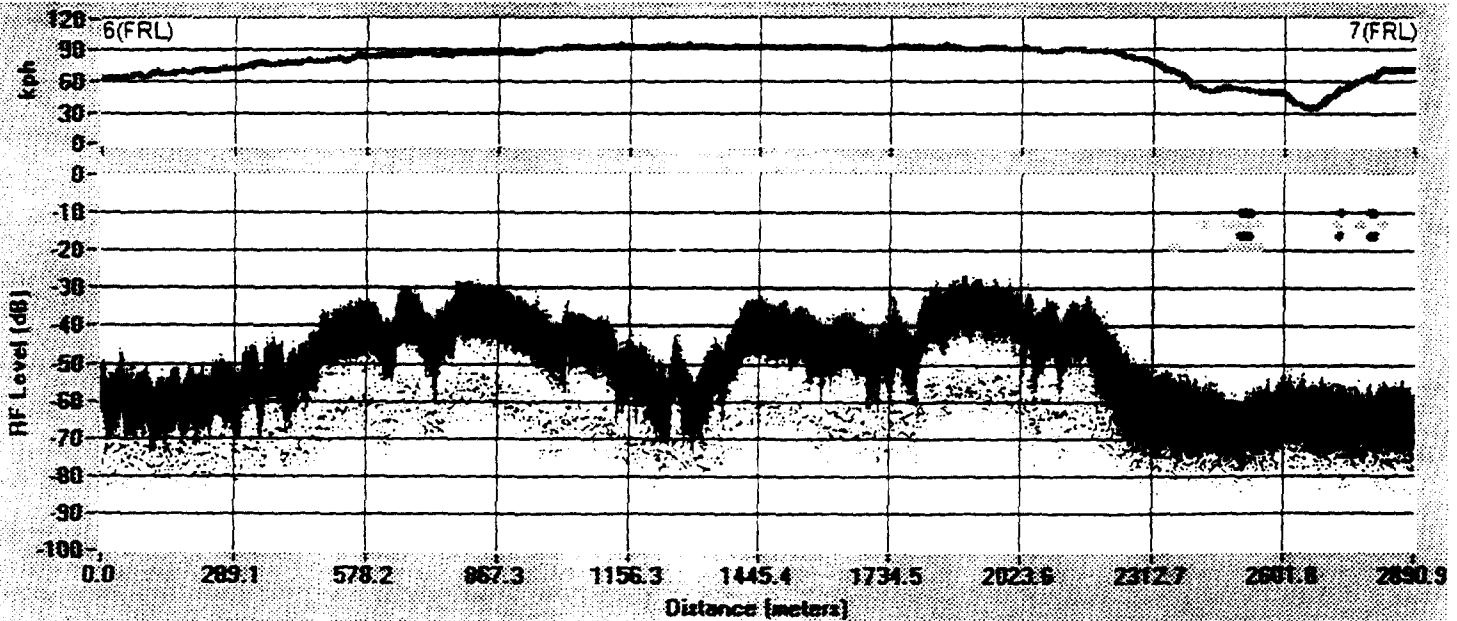
NOTE #1

### EUREKA-147 -- North Bay Route -- Landmarks 6-7



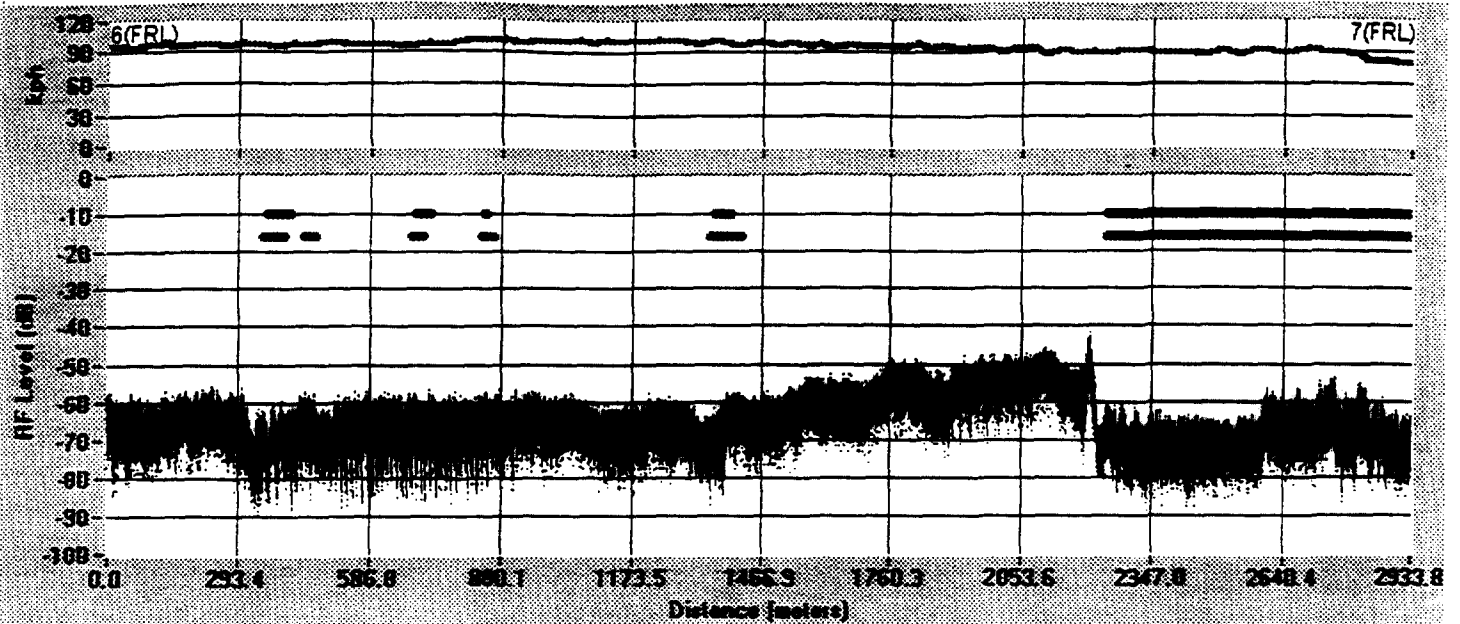
Event Summary: Total 2529; Clear 1954 (78.3%); Impaired 232 (9.3%); Muted 343 (13.8%).

### EUREKA-147 (single) -- North Bay Route -- Landmarks 6-7



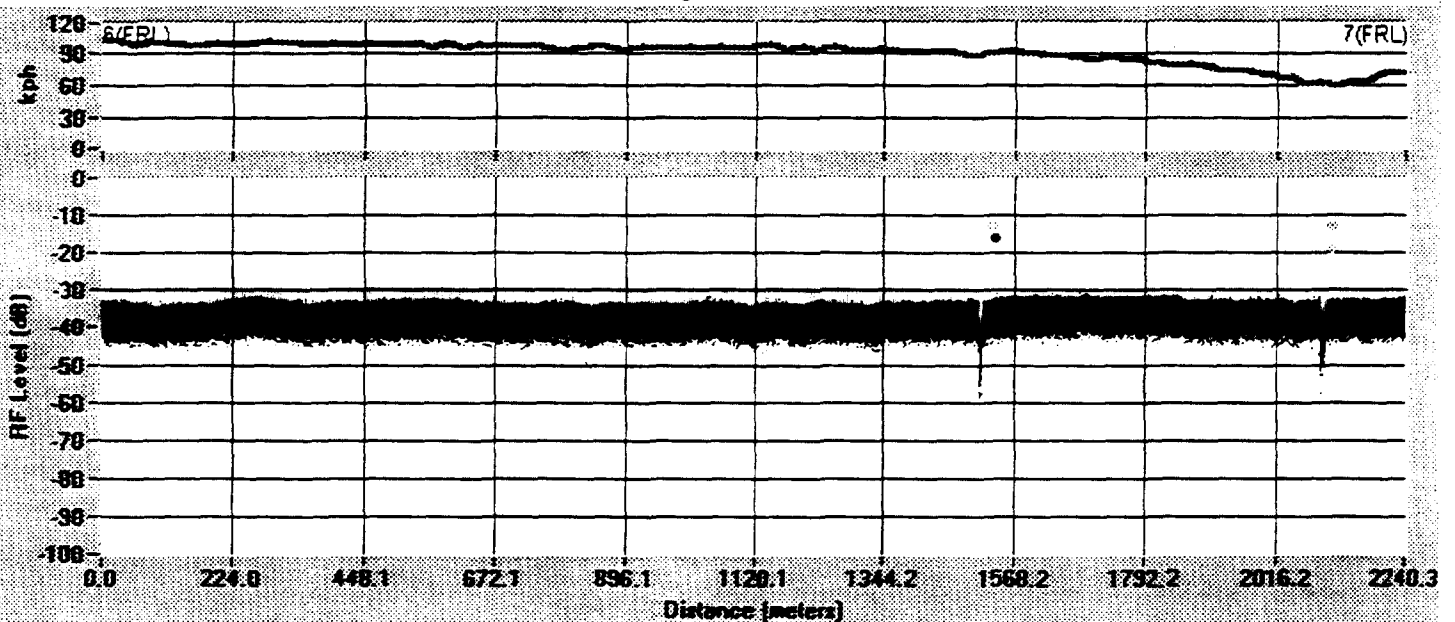
Event Summary: Total 2865; Clear 2665 (93.4%); Impaired 150 (5.3%); Muted 50 (1.8%).

# AT&T Lucent IBAC – North Bay Route – Landmarks 6-7



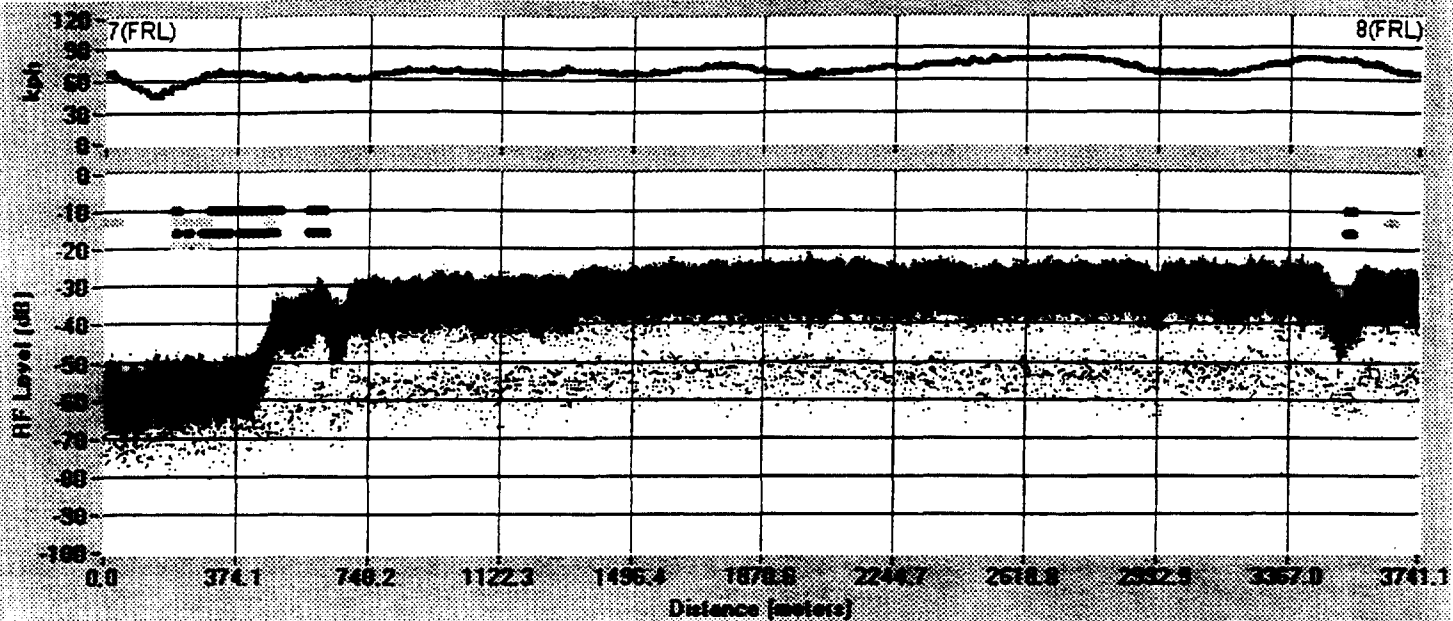
Event Summary: Total 2153; Clear 1456 (67.6%); Impaired 0 (0.0%); Muted 697 (32.4%).

# VOAJPL – North Bay Route – Landmarks 6-7



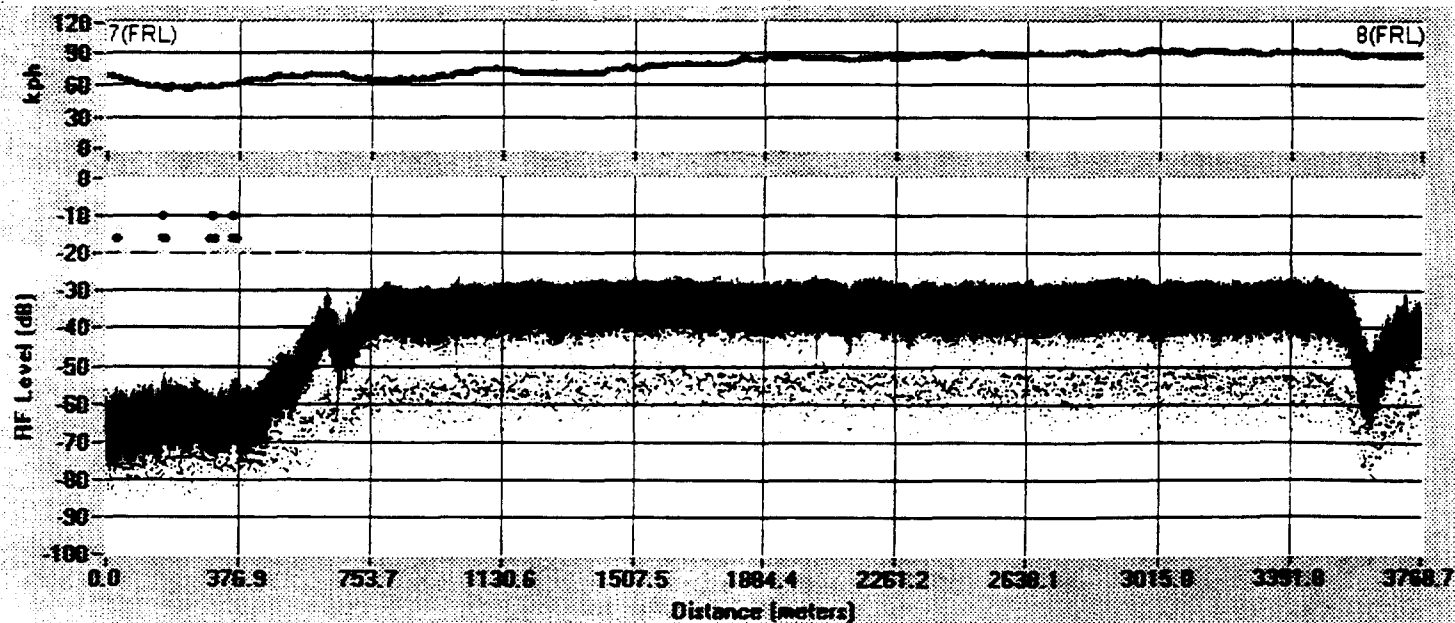
Event Summary: Total 1814; Clear 1798 (99.1%); Impaired 13 (0.7%); Muted 3 (0.2%).

### EUREKA-147 – North Bay Route – Landmarks 7-8



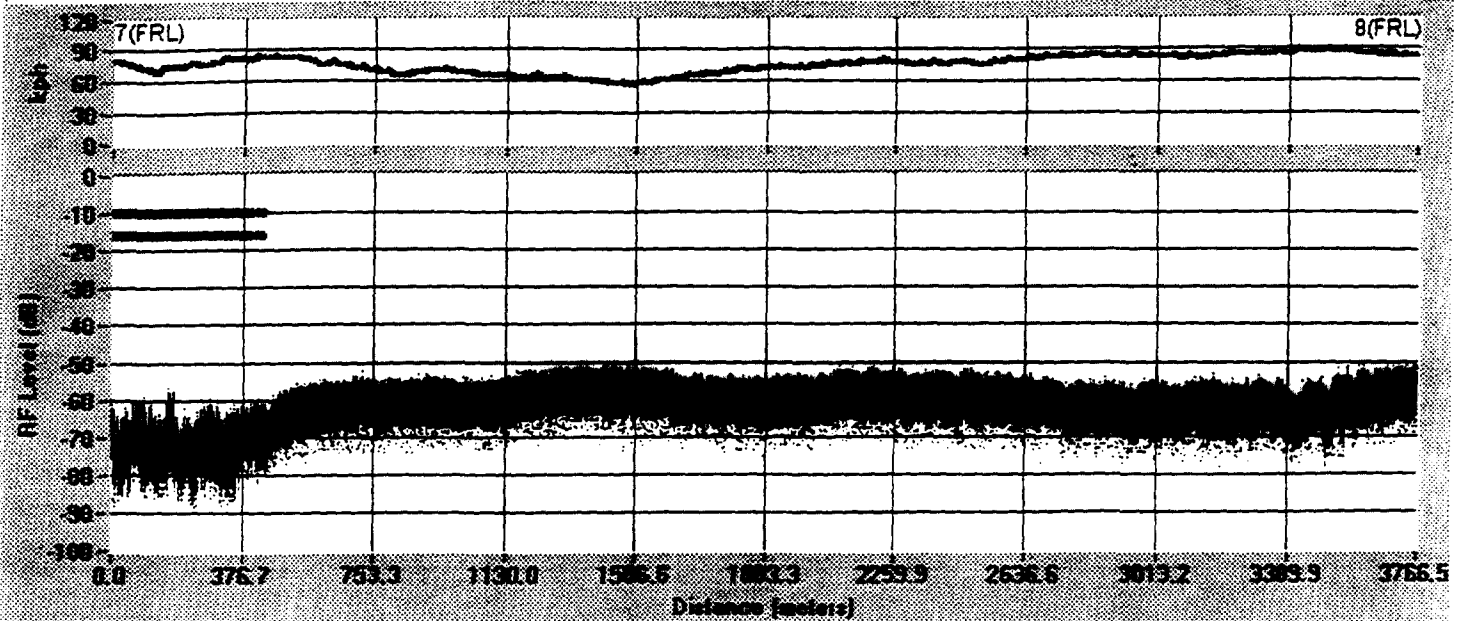
Event Summary: Total 4173; Clear 3669 (88.3%); Impaired 157 (3.8%); Muted 347 (8.4%).

### EUREKA-147 (single) – North Bay Route – Landmarks 7-8



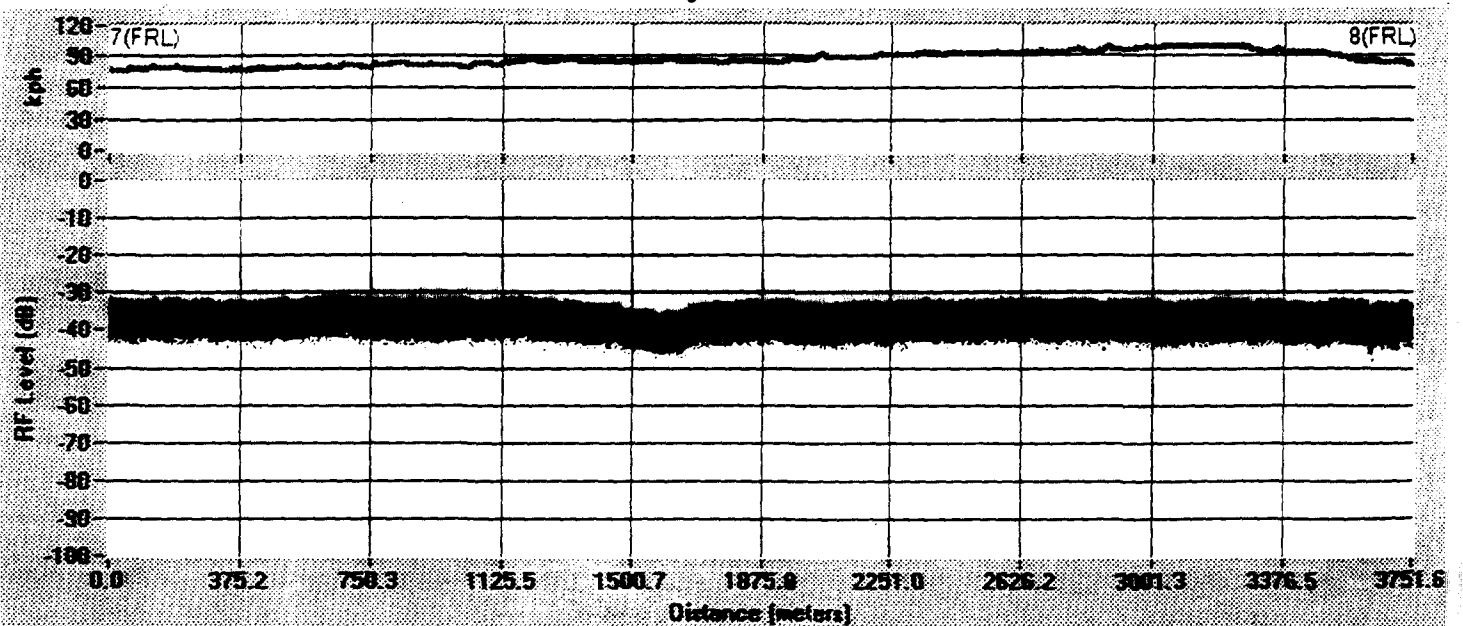
Event Summary: Total 3647; Clear 3473 (95.4%); Impaired 114 (3.1%); Muted 60 (1.6%).

# AT&T Lucent IBAC – North Bay Route – Landmarks 7-8



Event Summary: Total 3706; Clear 3303 (89.1%); Impaired 0 (0.0%); Muted 403 (10.9%).

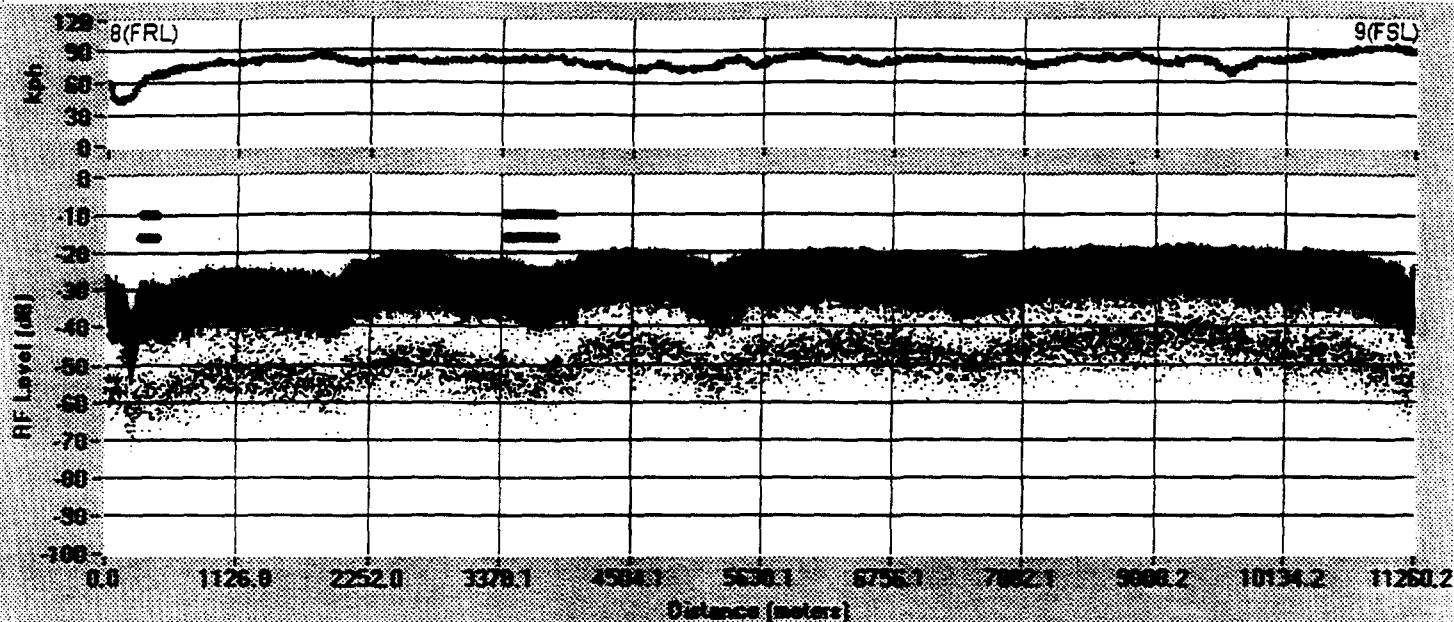
# VOAJPL – North Bay Route – Landmarks 7-8



Event Summary: Total 3164; Clear 3164 (100.0%); Impaired 0 (0.0%); Muted 0 (0.0%).

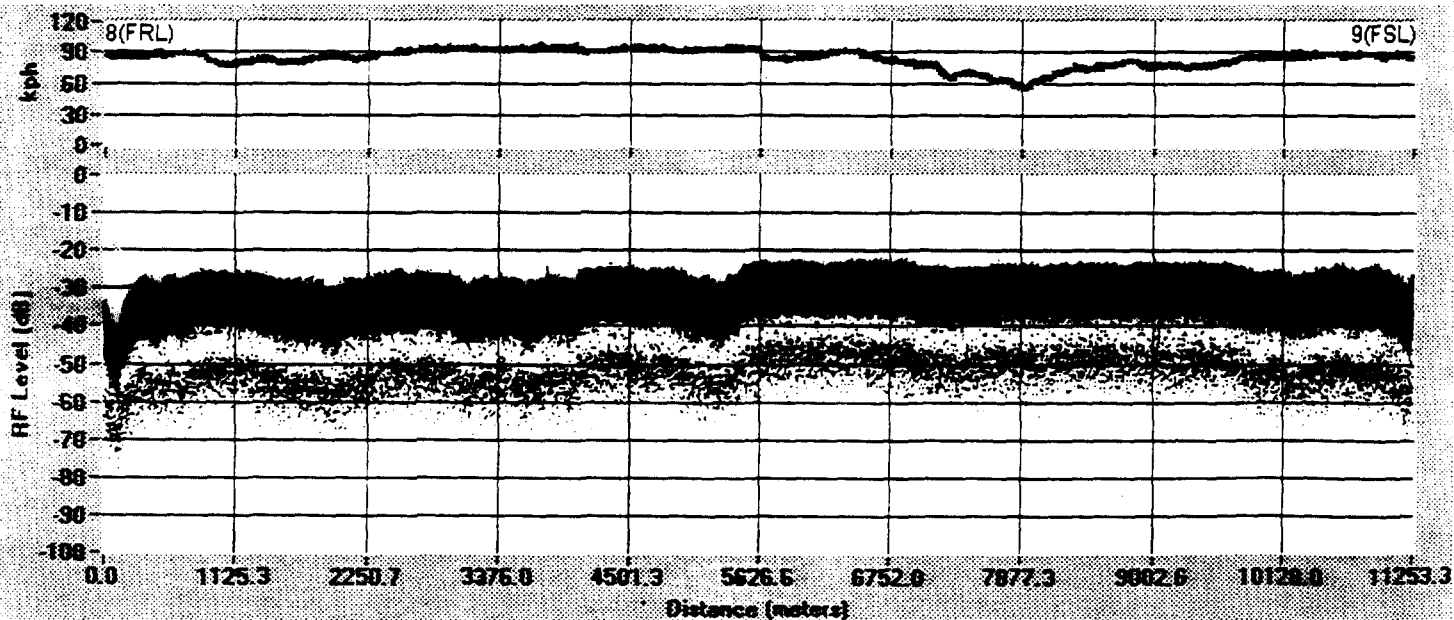


# **EUREKA-147 -- North Bay Route -- Landmarks 8-9**



Event Summary: Total 10608; Clear 10078 (95.0%); Impaired 0 (0.0%); Muted 530 (5.0%).

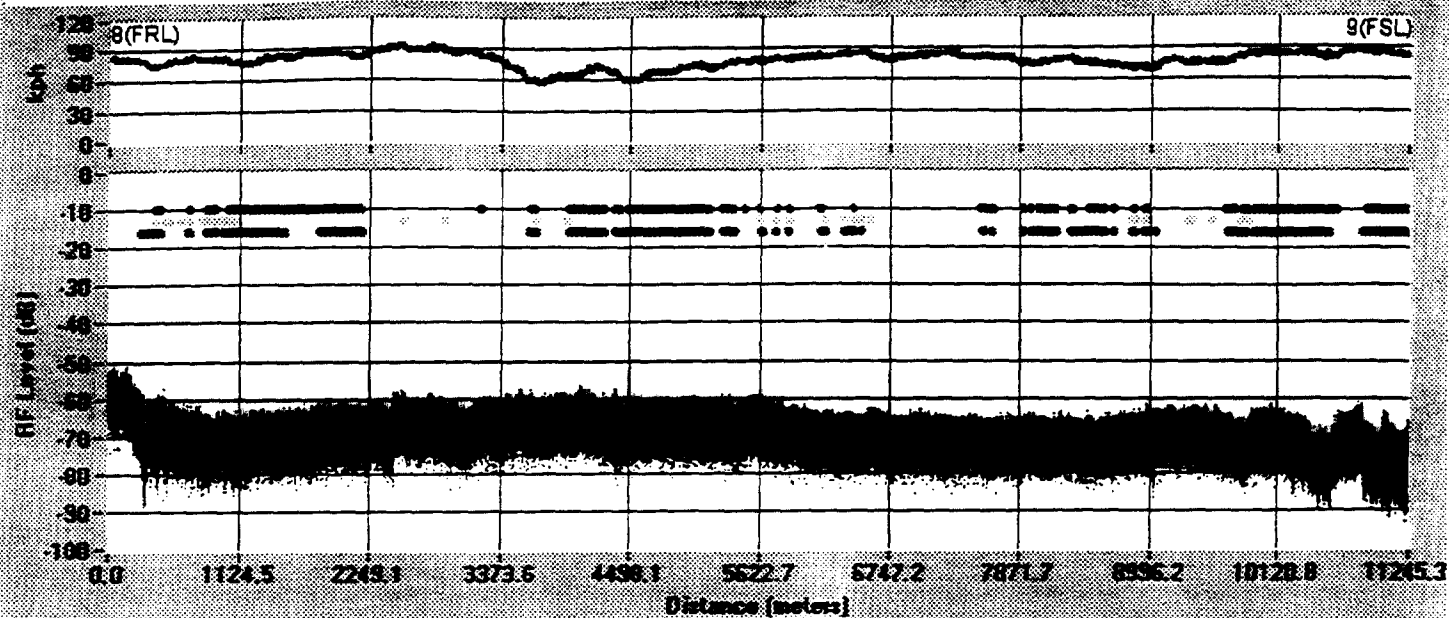
# **EUREKA-147 (single) -- North Bay Route -- Landmarks 8-9**



Event Summary: Total 9917; Clear 9911 (99.9%); Impaired 6 (0.1%); Muted 0 (0.0%).

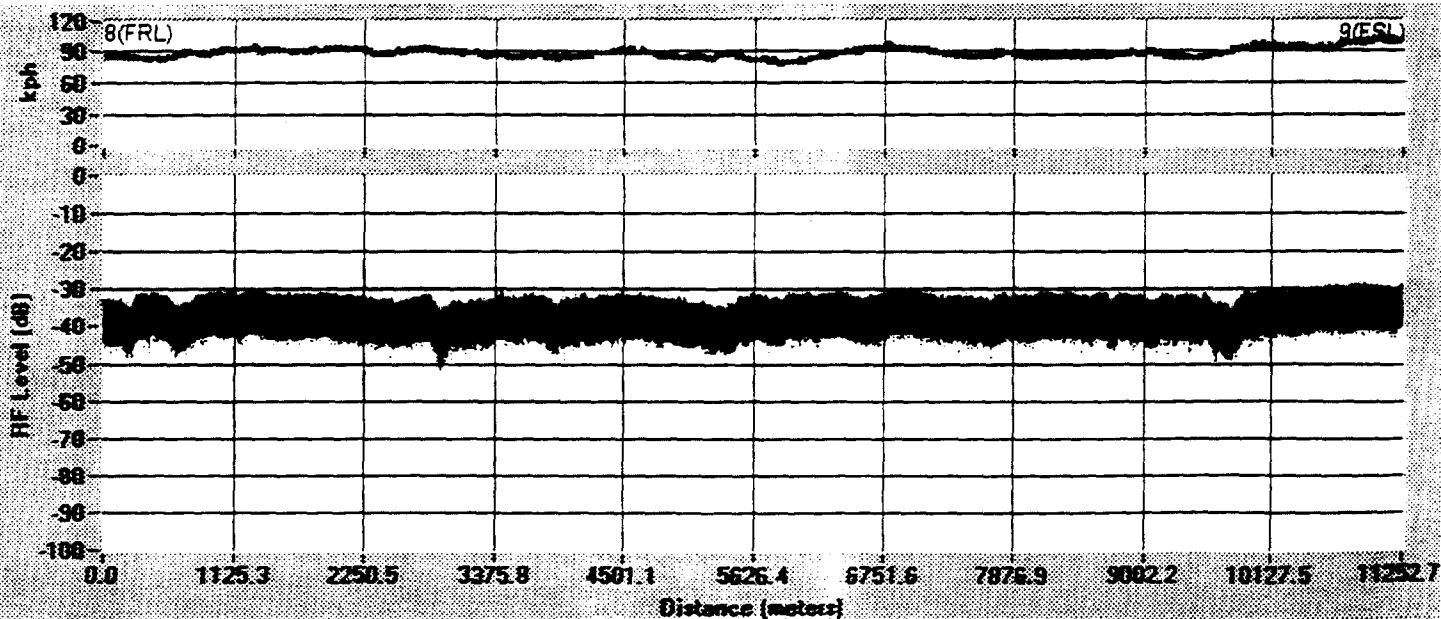


# AT&T Lucent IBAC – North Bay Route – Landmarks 8-9



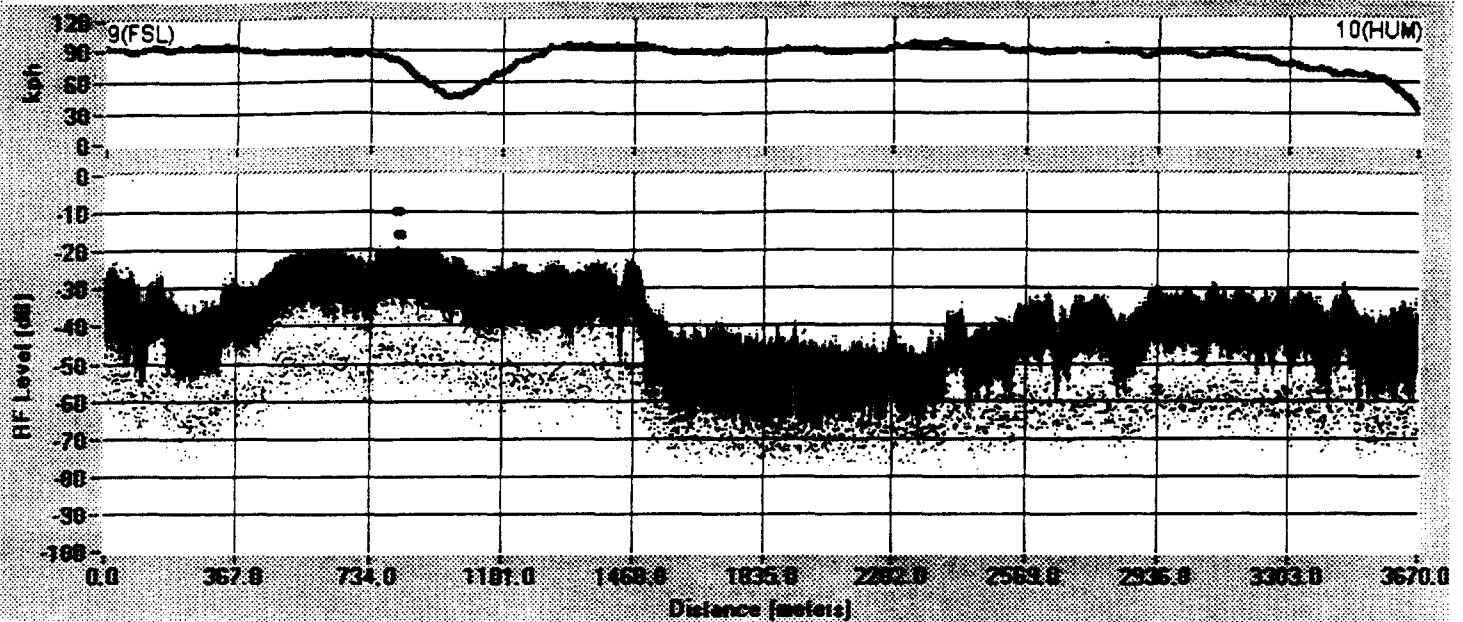
Event Summary: Total 10548; Clear 6438 (61.2%); Impaired 100 (1.0%); Muted 4010

# VOAJPL – North Bay Route – Landmarks 8-9



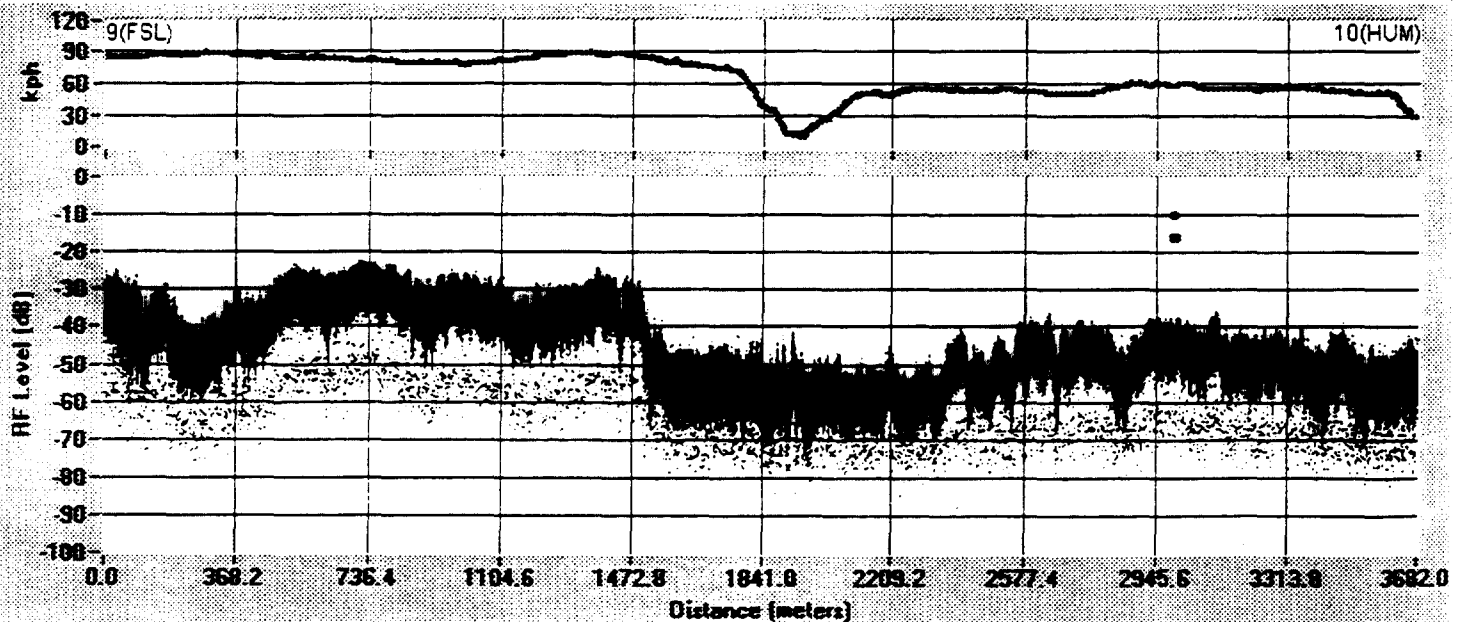
Event Summary: Total 9280; Clear 9280 (100.0%); Impaired 0 (0.0%); Muted 0 (0.0%).

# **EUREKA-147 – North Bay Route – Landmarks 9-10**



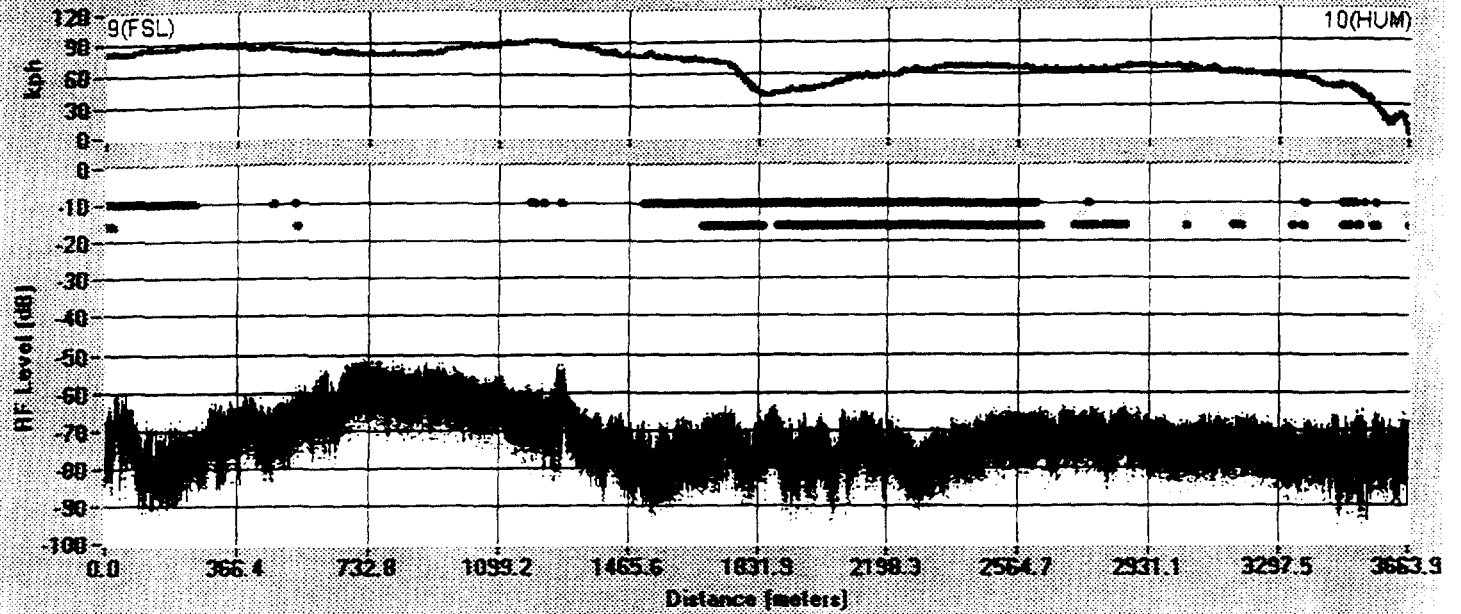
Event Summary: Total 3281; Clear 3266 (99.5%); Impaired 0 (0.0%); Muted 15 (0.5%).

# **EUREKA-147 (single) – North Bay Route -- Landmarks 9-10**



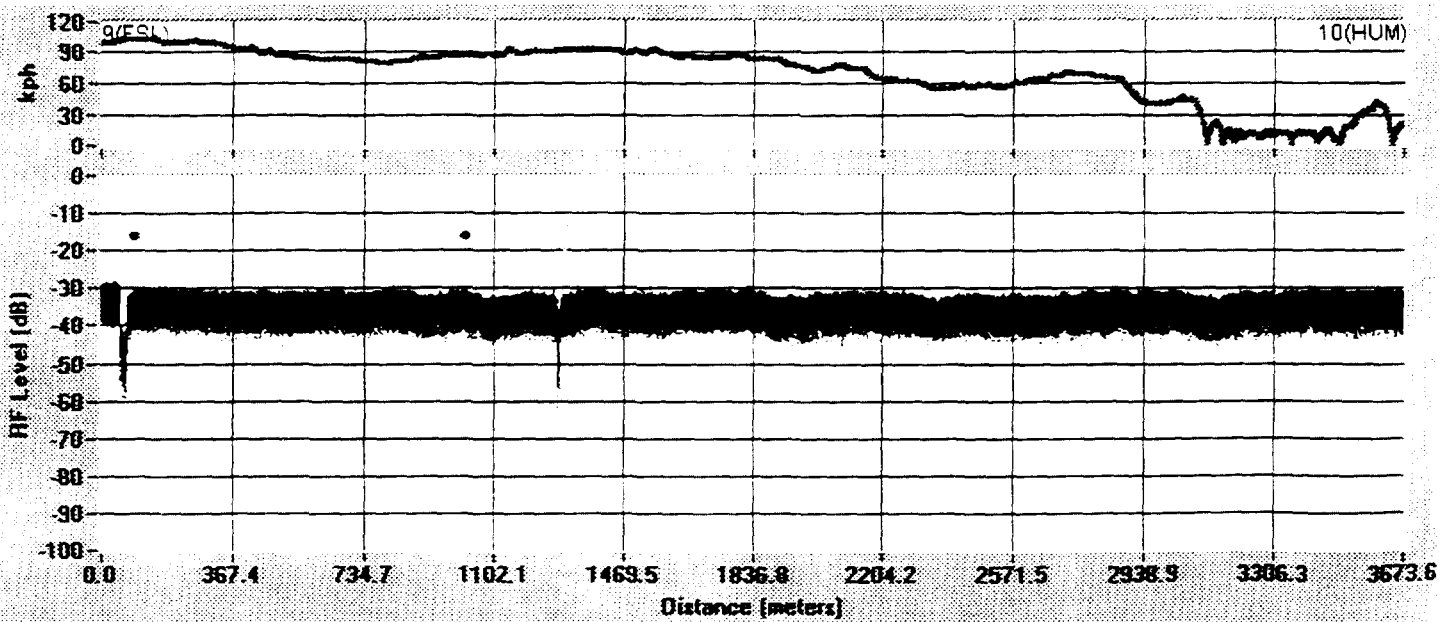
Event Summary: Total 5018; Clear 5001 (99.7%); Impaired 0 (0.0%); Muted 17 (0.3%).

### AT&T Lucent IBAC -- North Bay Route -- Landmarks 9-10



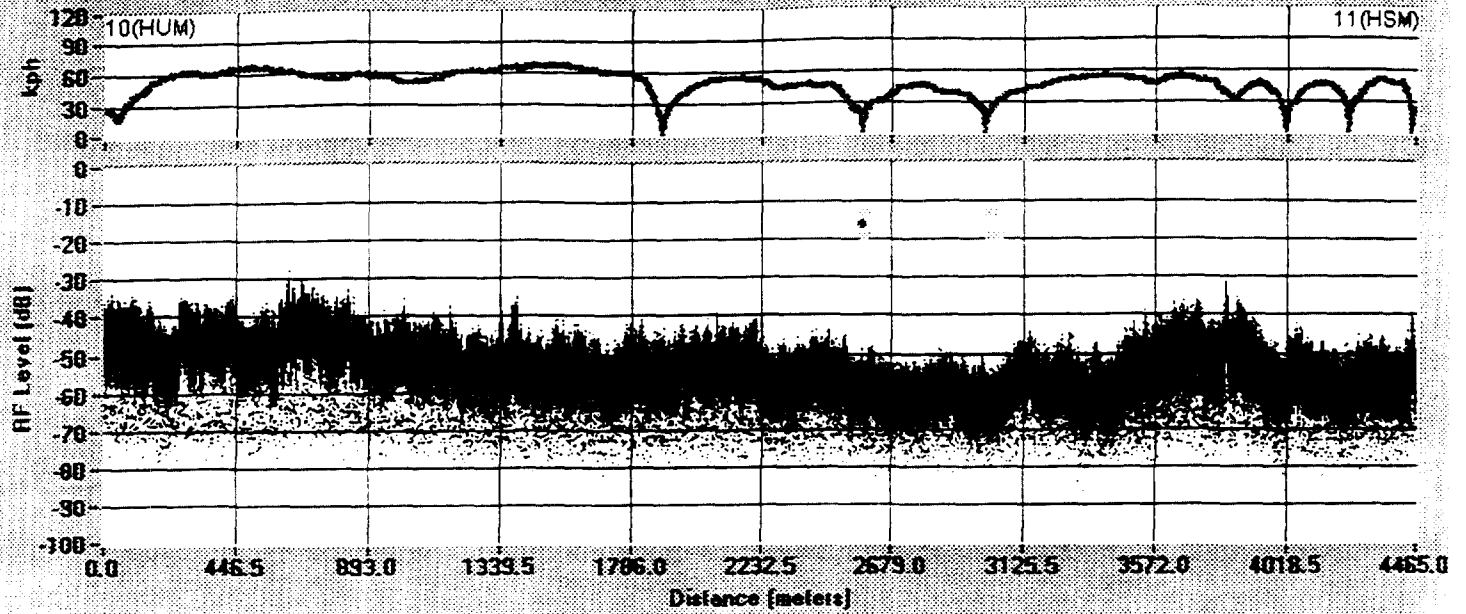
Event Summary: Total 4592; Clear 2642 (57.7%); Impaired 39 (0.9%); Muted 1911 (41.8%).

### VOAJPL -- North Bay Route -- Landmarks 9-10



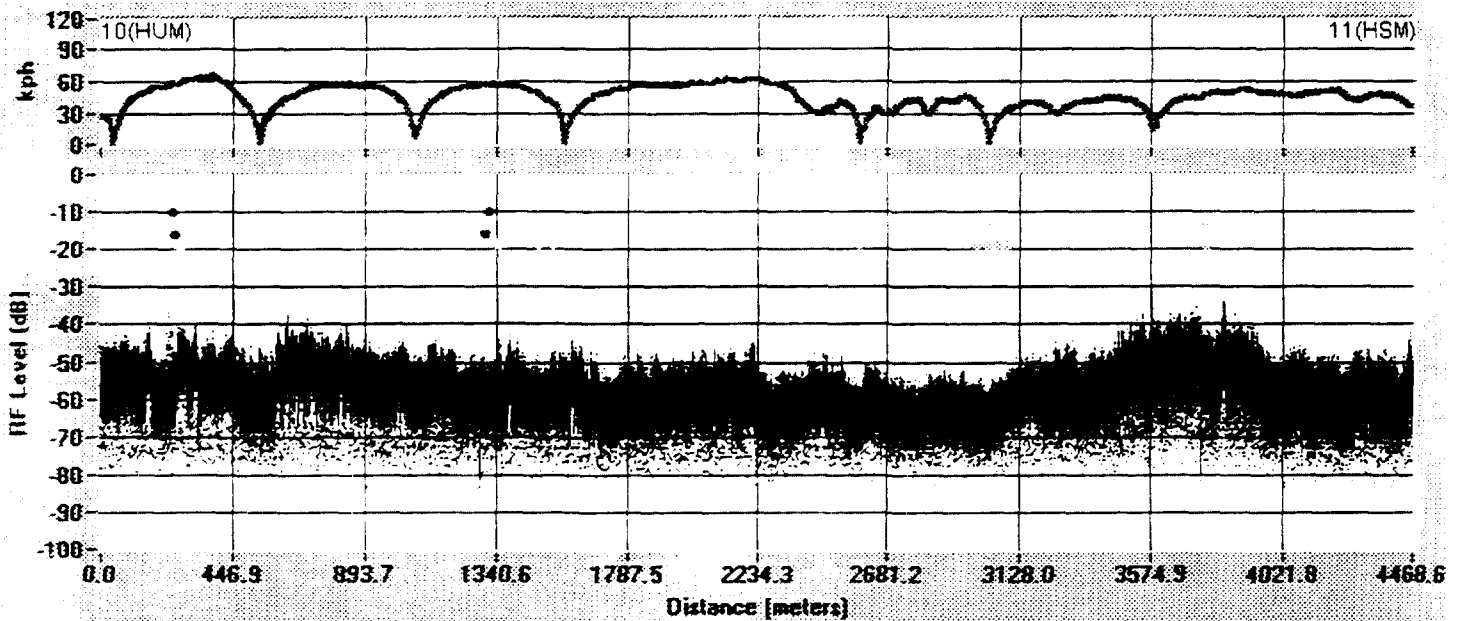
Event Summary: Total 7544; Clear 7516 (99.7%); Impaired 17 (0.2%); Muted 11 (0.1%).

# **EUREKA-147 -- North Bay Route -- Landmarks 10-11**



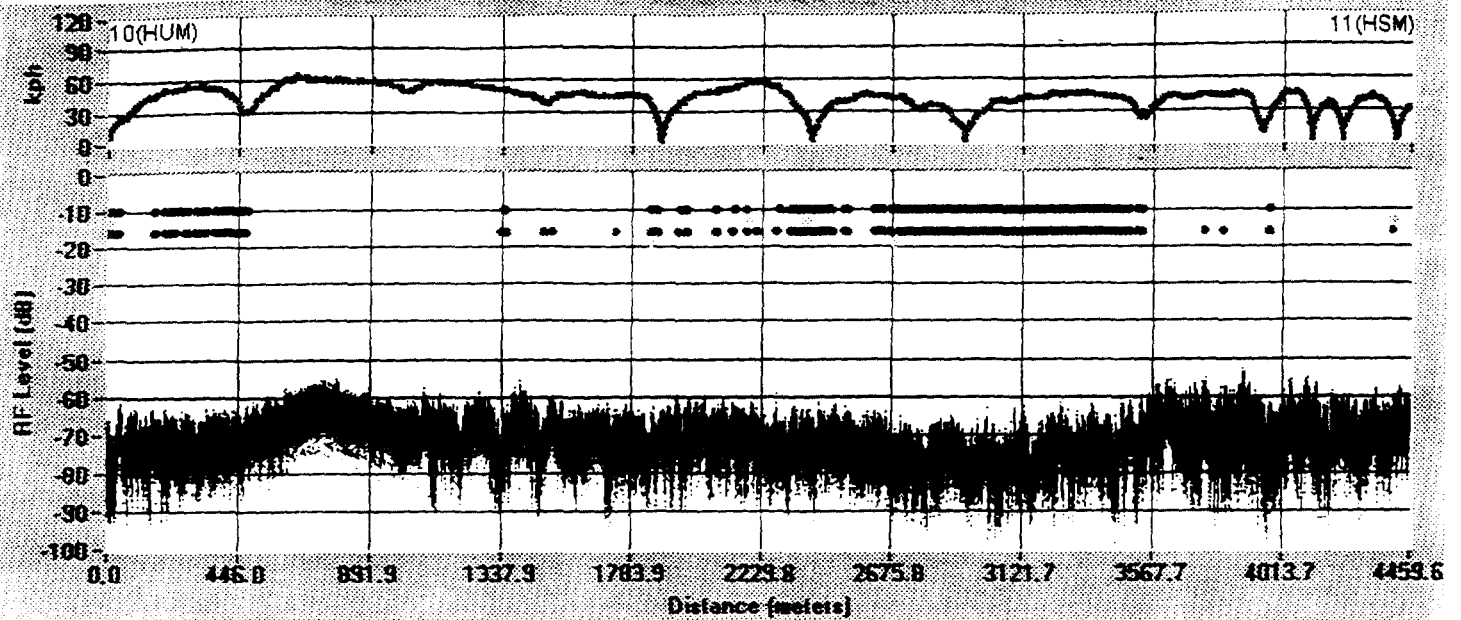
Event Summary: Total 8699; Clear 8530 (98.1%); Impaired 168 (1.9%); Muted 1 (0.0%).

# **EUREKA-147 (single) -- North Bay Route -- Landmarks 10-11**



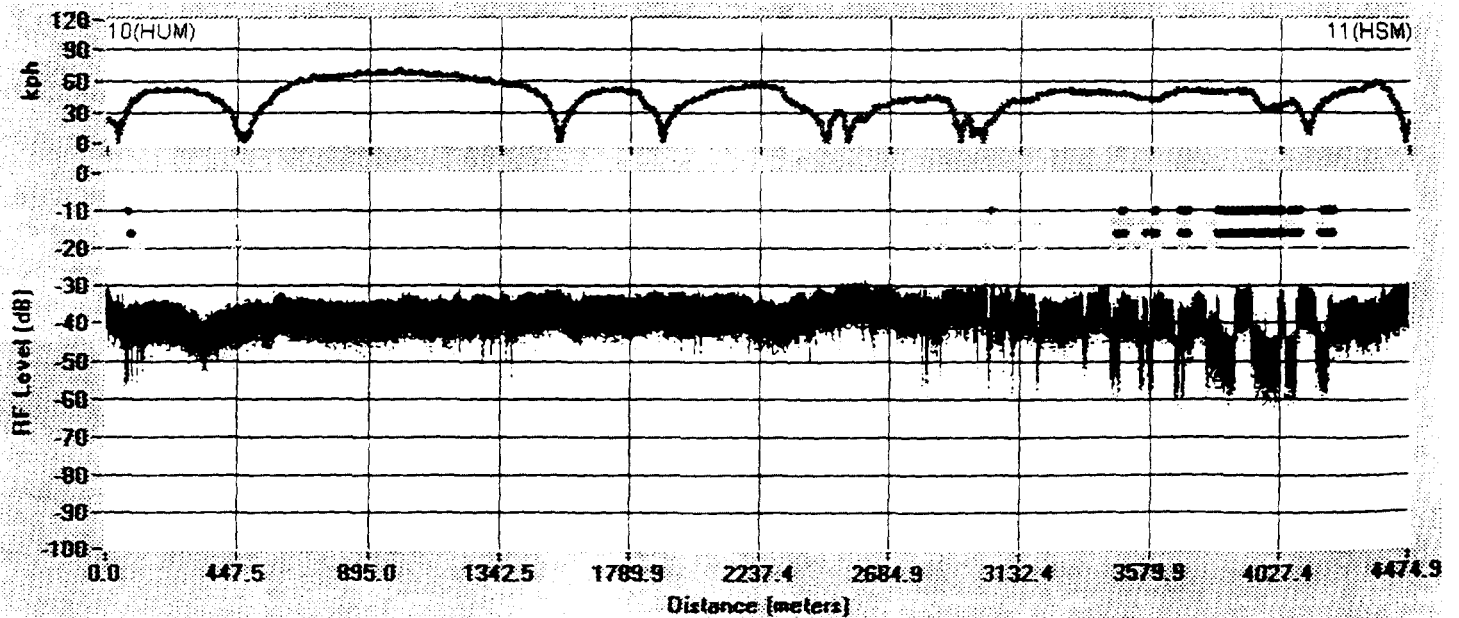
Event Summary: Total 9639; Clear 9251 (96.0%); Impaired 348 (3.6%); Muted 40 (0.4%).

### AT&T Lucent IBAC -- North Bay Route -- Landmarks 10-11



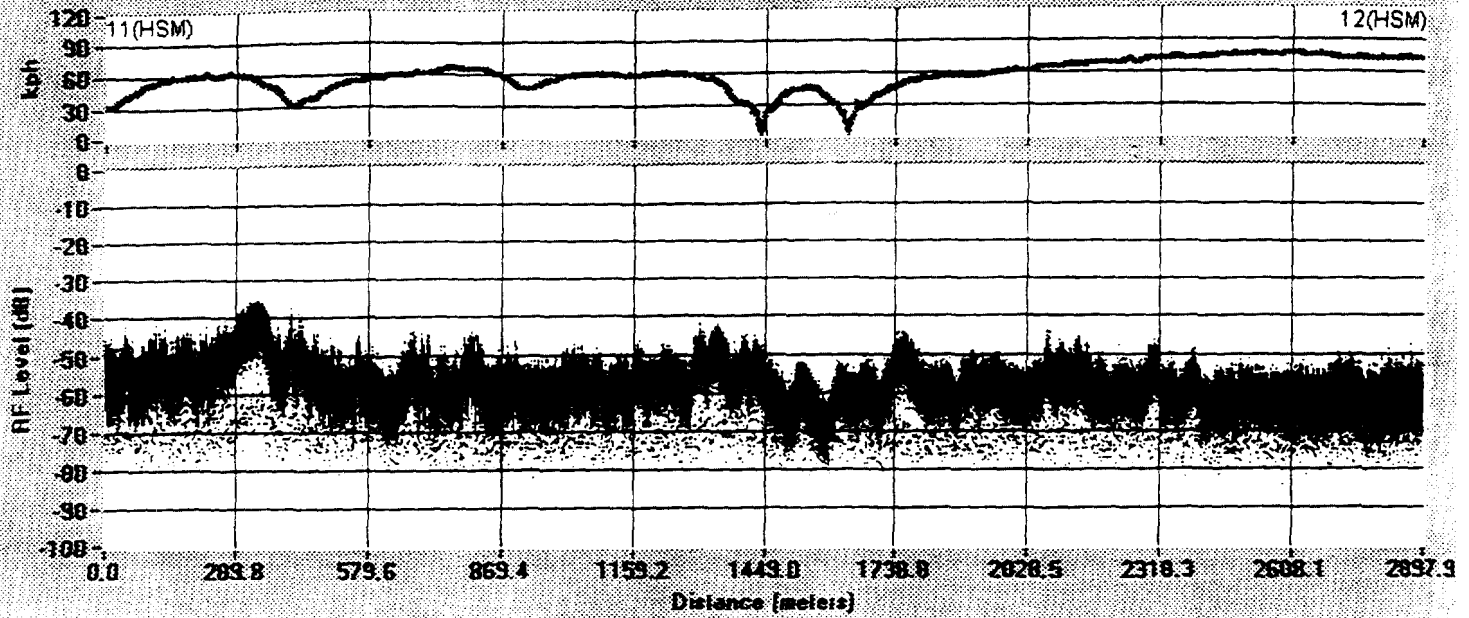
Event Summary: Total 10580; Clear 7334 (69.4%); Impaired 25 (0.2%); Muted 3221 (30.5%).

### VOAJPL -- North Bay Route -- Landmarks 10-11



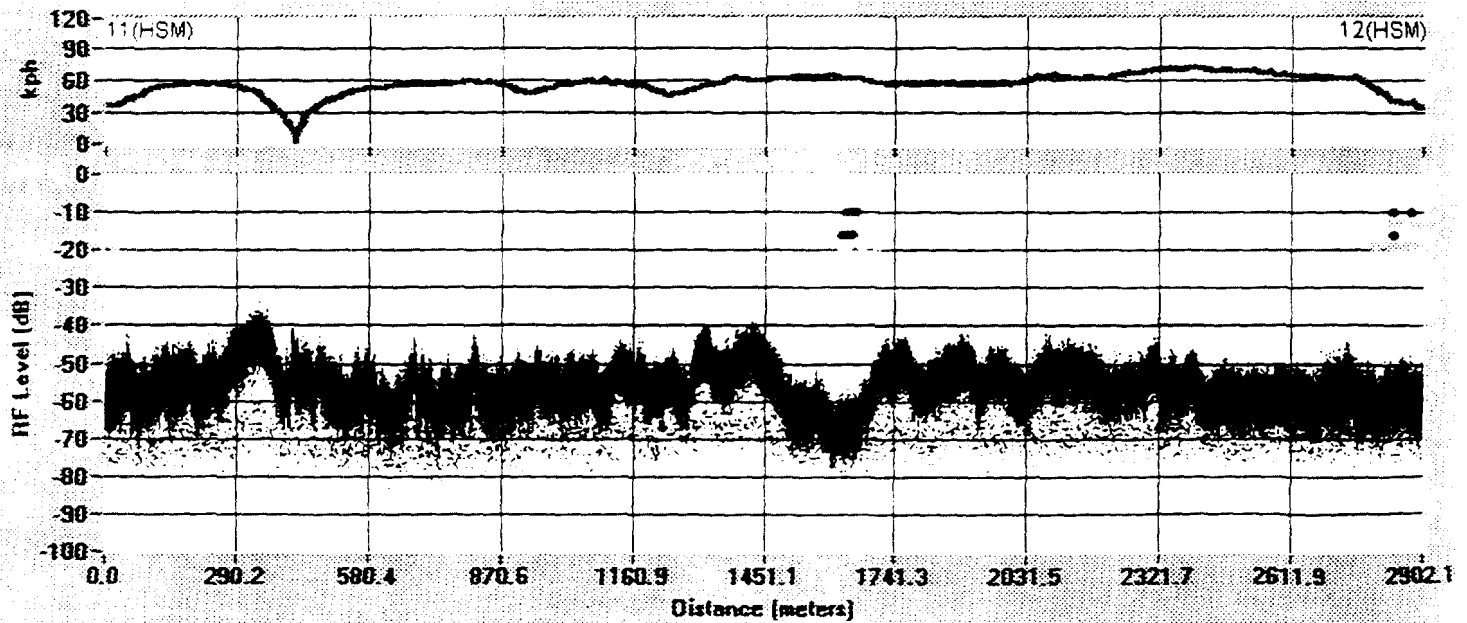
Event Summary: Total 12745; Clear 11806 (92.7%); Impaired 228 (1.8%); Muted 711 (5.6%).

# EUREKA-147 -- North Bay Route -- Landmarks 11-12



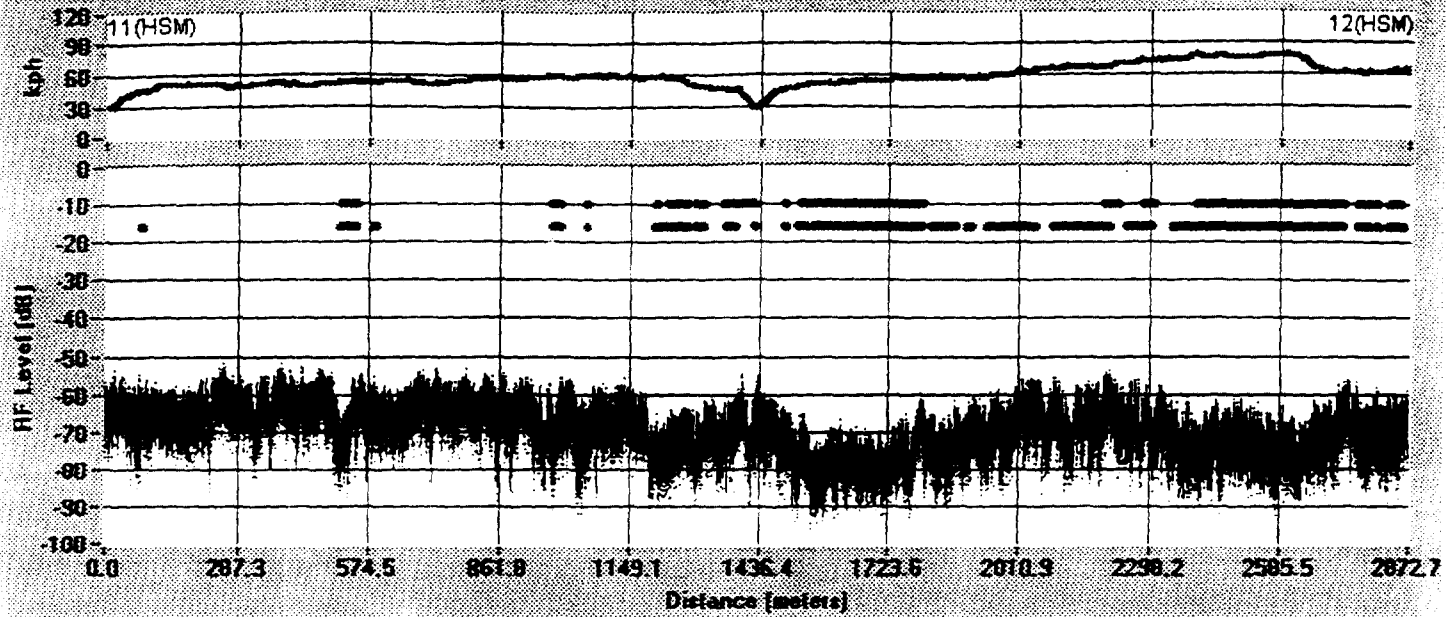
Event Summary: Total 4588; Clear 4557 (99.3%); Impaired 31 (0.7%); Muted 0 (0.0%).

# EUREKA-147 (single) -- North Bay Route -- Landmarks 11-12



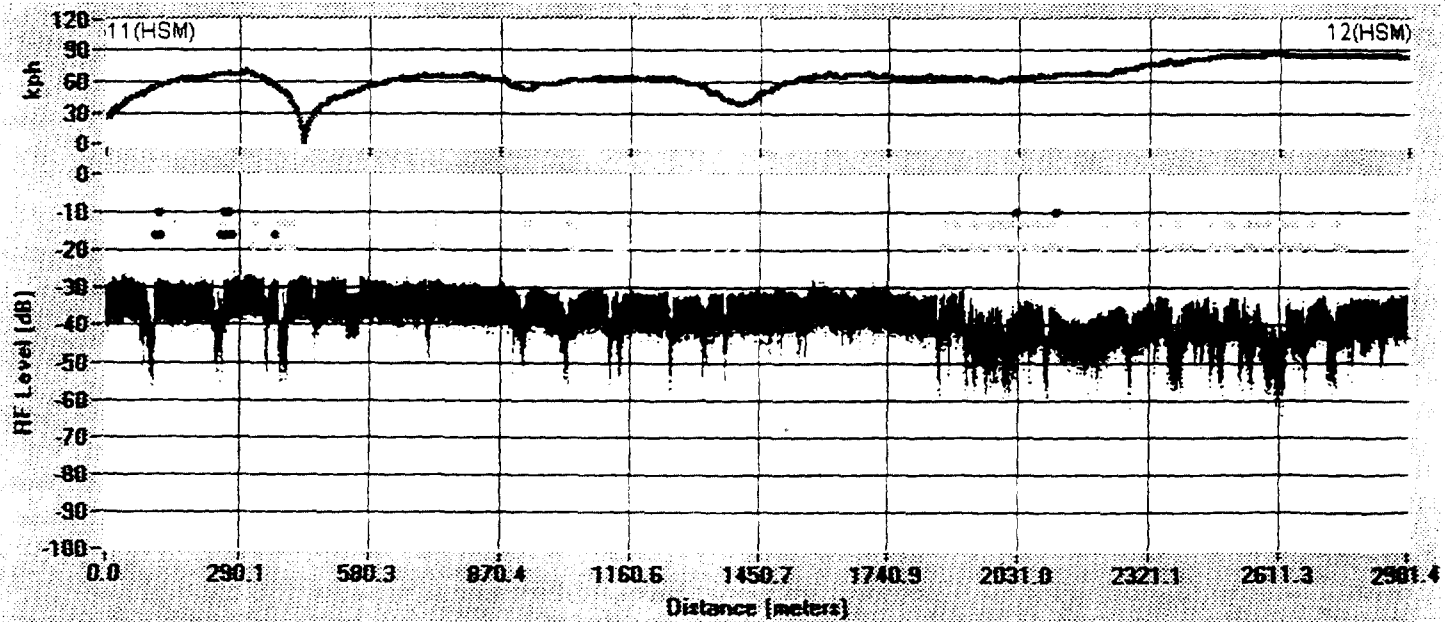
Event Summary: Total 4414; Clear 4166 (94.6%); Impaired 191 (4.3%); Muted 57 (1.3%).

# AT&T Lucent IBAC – North Bay Route – Landmarks 11-12



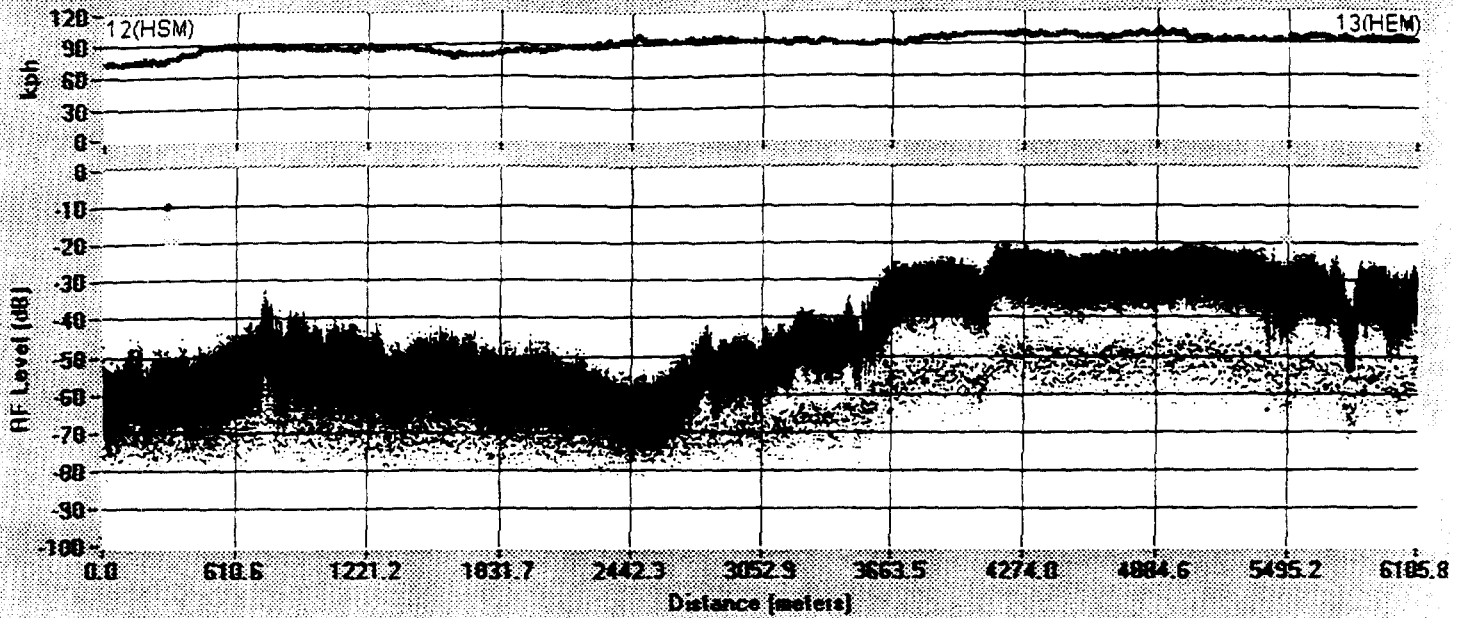
Event Summary: Total 4025; Clear 2318 (57.6%); Impaired 2 (0.0%); Muted 1705 (42.4%).

# VOAJPL – North Bay Route – Landmarks 11-12



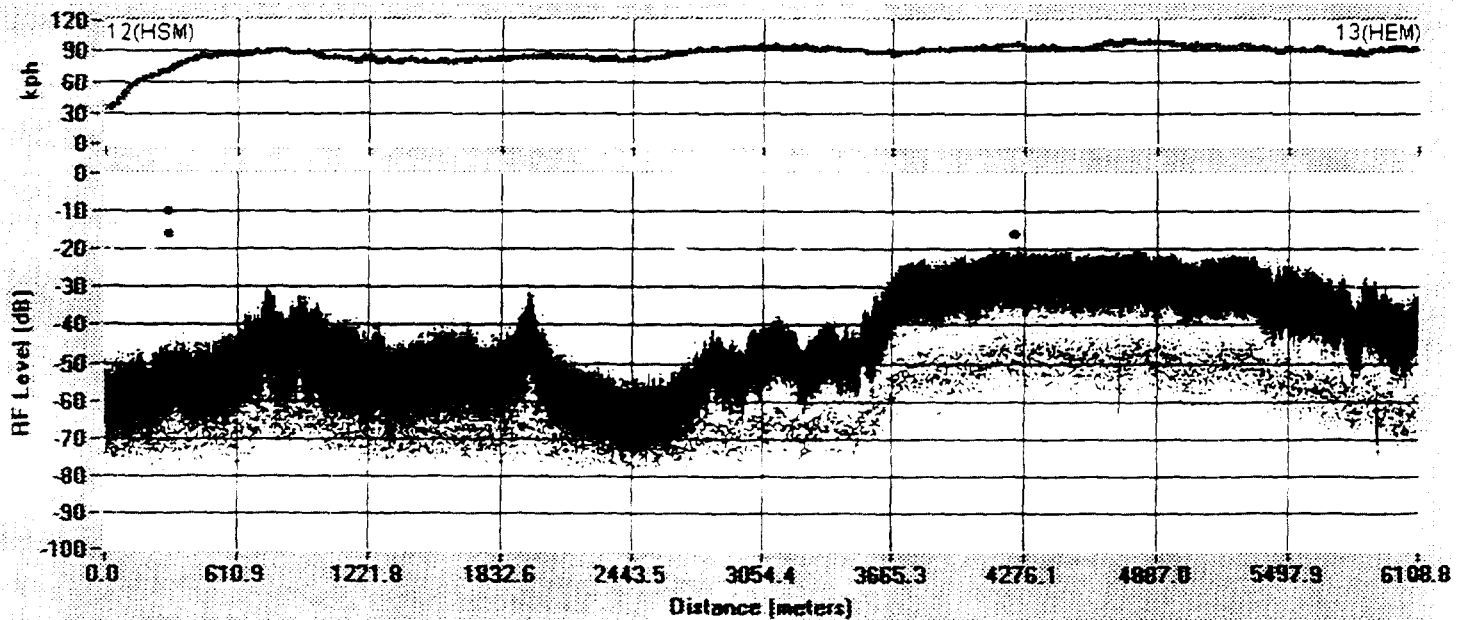
Event Summary: Total 3811; Clear 3412 (89.7%); Impaired 340 (8.9%); Muted 59 (1.6%).

# **EUREKA-147 -- North Bay Route -- Landmarks 12-13**



Event Summary: Total 4768; Clear 4711 (98.9%); Impaired 54 (1.1%); Muted 3 (0.1%).

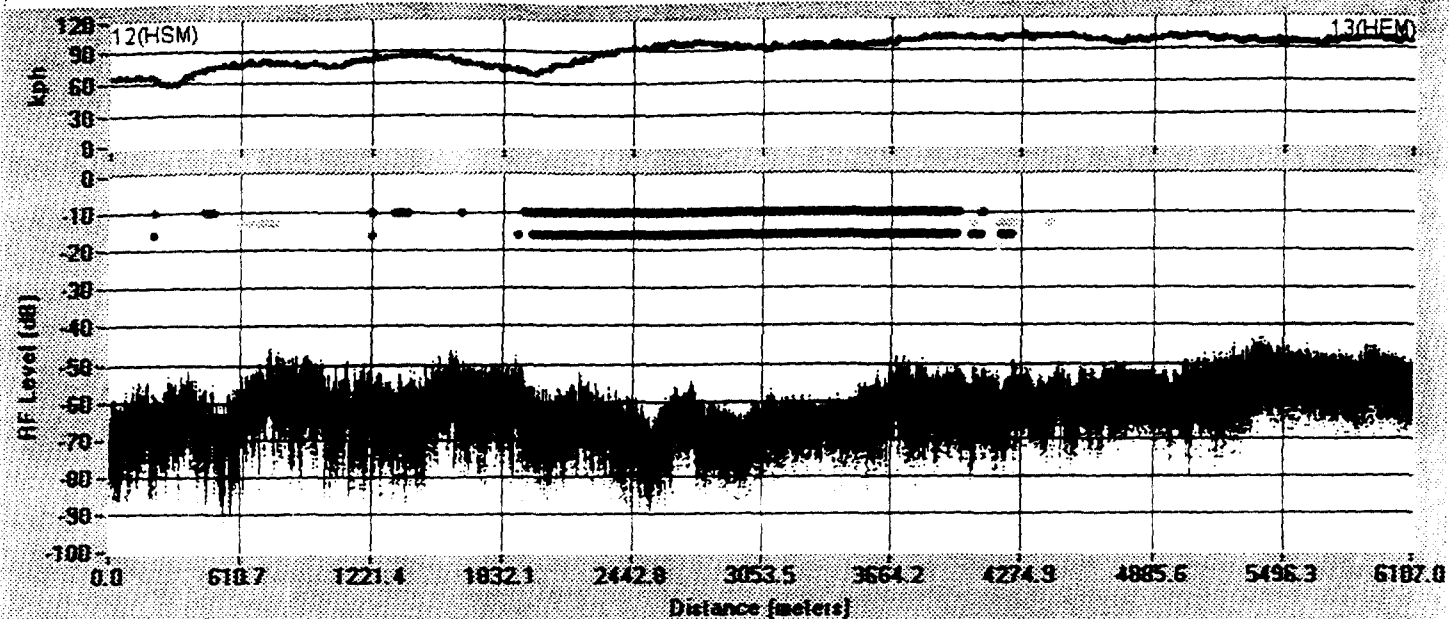
## **EUREKA-147 (single) -- North Bay Route -- Landmarks 12-13**



Event Summary: Total 5133; Clear 5044 (98.3%); Impaired 73 (1.4%); Muted 16 (0.3%).

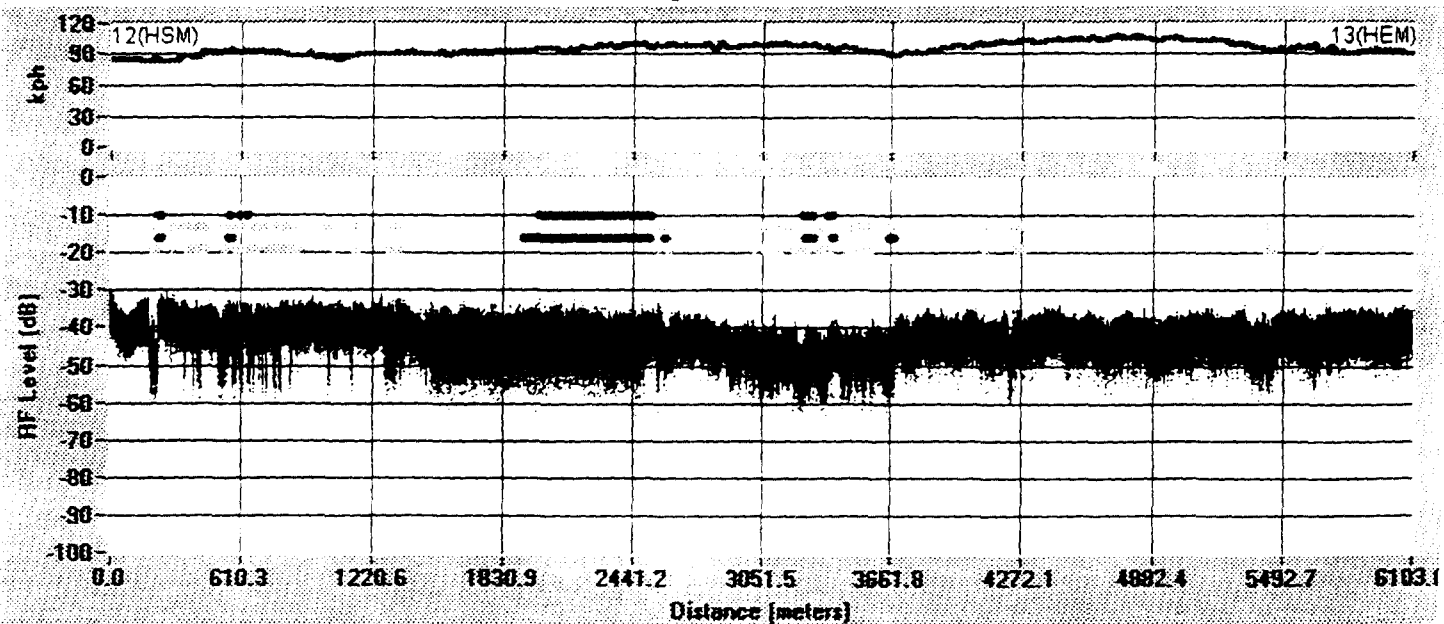


### AT&T Lucent IBAC – North Bay Route – Landmarks 12-13



Event Summary: Total 4991; Clear 3152 (63.2%); Impaired 88 (1.8%); Muted 1751 (35.1%).

### VOAJPL – North Bay Route – Landmarks 12-13



Event Summary: Total 4499; Clear 3511 (78.4%); Impaired 453 (10.1%); Muted 535 (11.9%).